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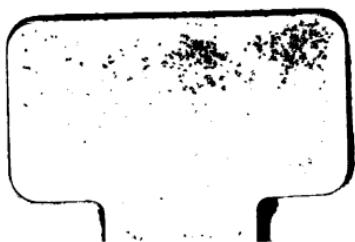
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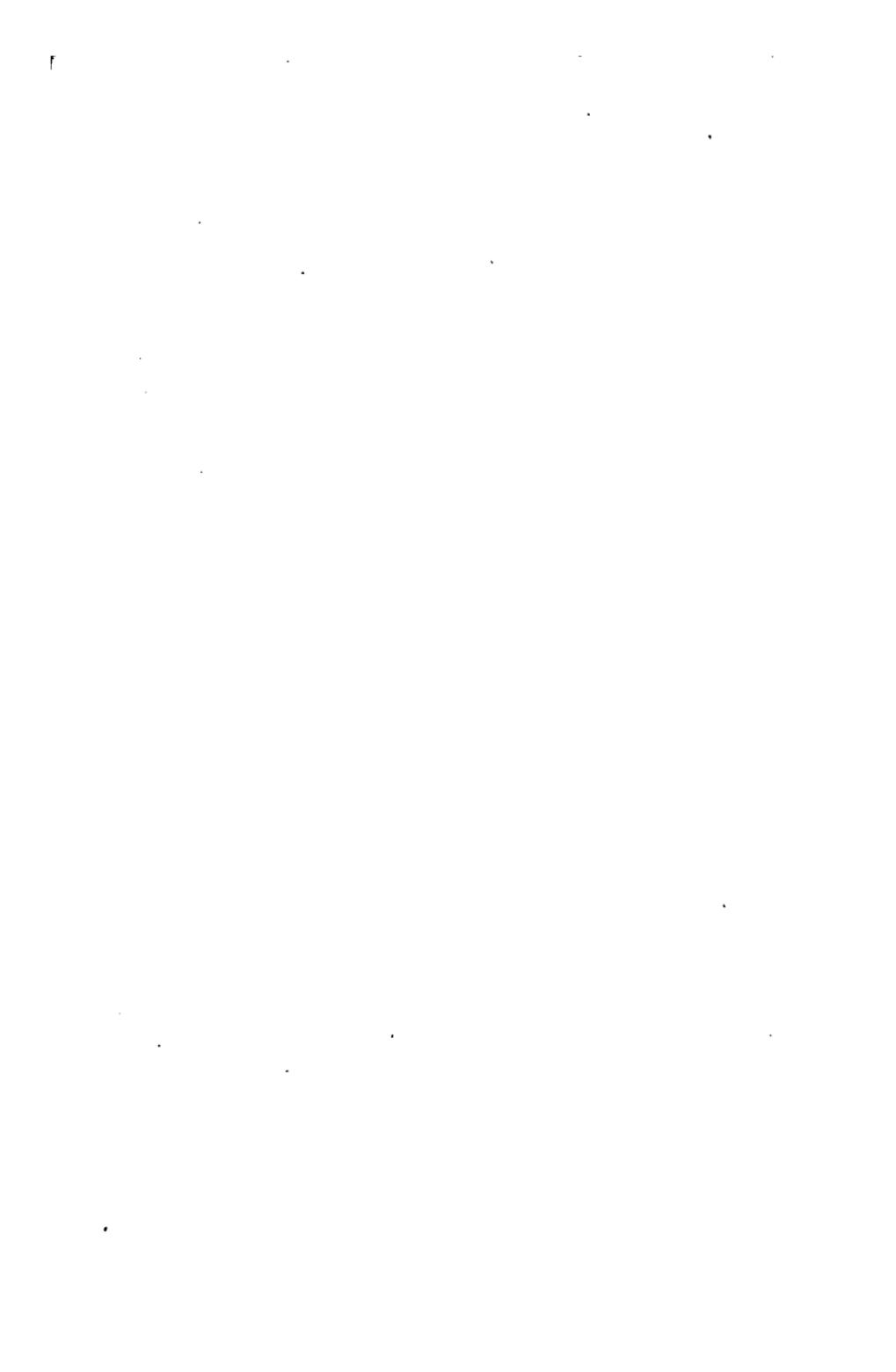
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# HAND-BOOK

ABOUT



## OUR DOMESTIC PETS:

CONTAINING

DESCRIPTIVE NOTICES OF FAVOURITE BIRDS AND OTHER ANIMALS;  
THE MODE OF PRESERVING THEM IN HEALTH, ETC.



CASSELL, PETTER, AND GALPIN,  
LONDON AND NEW YORK.

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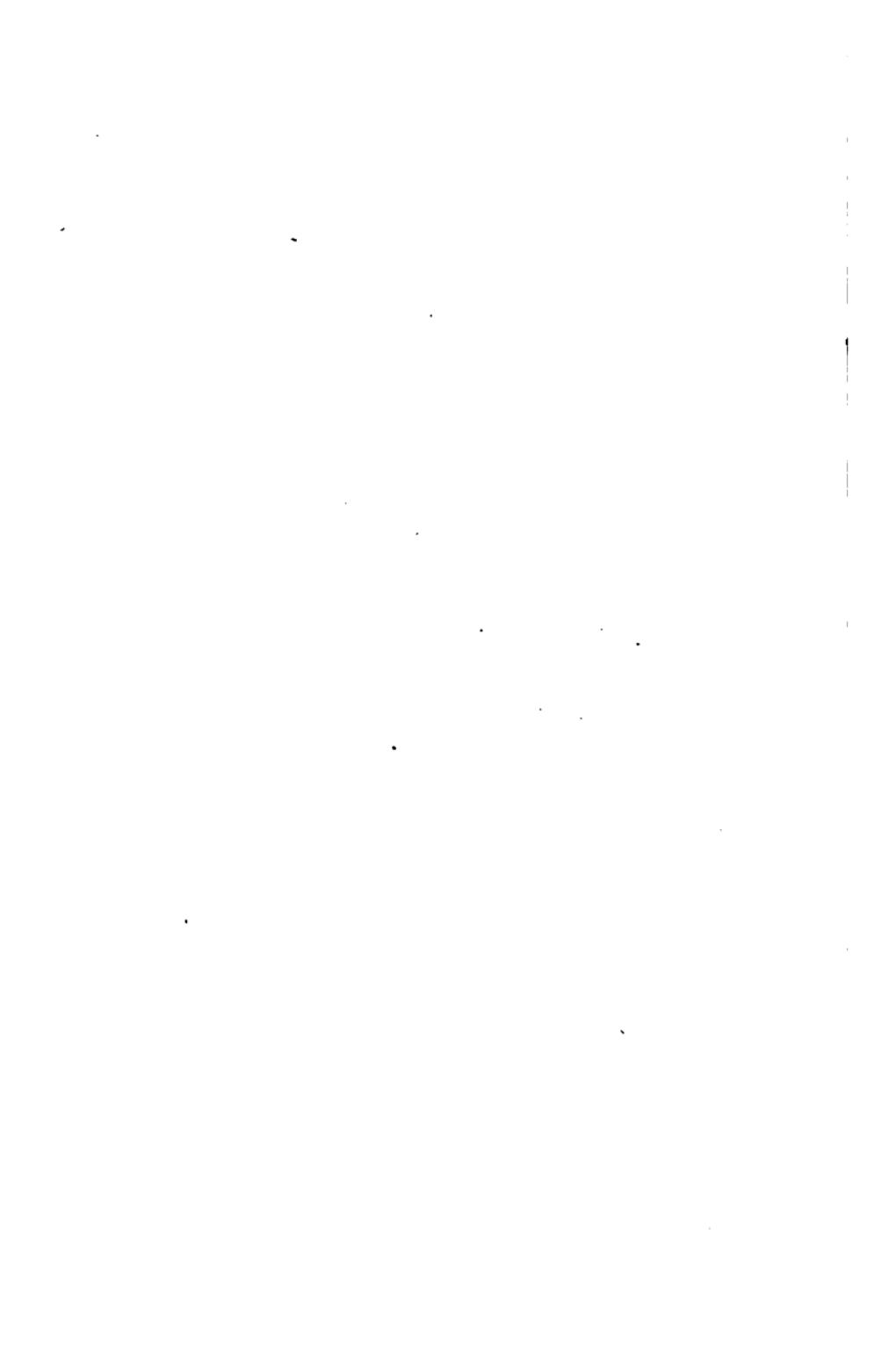
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CASSELL, PETTER, AND GALPIN, LONDON AND NEW YORK.

## P R E F A C E.

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THIS little volume will be found to contain a large amount of useful information concerning the mode of treatment and the habits of the animals usually domesticated as pets ; though it must be confessed that some of them—as the monkey, the hare, and the owl—are a little out of fashion. It will, of course, not be expected that exhaustive details could be given concerning each animal in the compass of a shilling hand-book ; but the writer has endeavoured to condense as much practical information as possible under each head, and to supply such hints as may serve the inexperienced, at least, for a commencement ; at the same time, sufficient variety is introduced to suggest the points of interest to those who are undecided in their choice of a bird, or of a pet animal of any description.



## CONTENTS.

---

	PAGE
The Canary.....	7
The Linnet.....	12
The Robin .....	14
The Goldfinch .....	15
Mule Singing Birds .....	18
The Bullfinch.....	18
The Lark.....	19
The Chaffinch .....	20
The Nightingale .....	22
The Blackbird .....	24
The Starling .....	26
The Thrush .....	27
The Cuckoo .....	28
The Parrot.....	29
The Jackdaw.....	33
The Magpie .....	35
The Jay .....	38
The Raven .....	39
The Owl .....	41
The Cat .....	43
The Dog .....	45
The Goat.....	51
Sheep and Lambs.....	53
The Monkey .....	56
The Squirrel .....	60
The Guinea Pig.....	61
The Hedgehog .....	62
Rabbits .....	65
Hares .....	66

## CONTENTS.

	PAGE
The Tortoise .....	68
White Mice .....	69
The Dormouse .....	70
Silkworms .....	71
Turtle-doves .....	73
Pigeons .....	74
The Aquarium .....	76
Swans, Geese, and Ducks .....	81
Poultry .....	83

## HAND-BOOK OF DOMESTIC PETS.

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### THE CANARY.

It is, perhaps, almost needless to inform many readers that the birds now kept with so much care throughout Europe were originally natives of the Canary Islands. They may still, indeed, be found there; but for the last two centuries this, the greatest favourite of all cage birds, has been bred in Europe.

The way in which the species first attracted notice was thus: In the beginning of the sixteenth century a ship was wrecked on the coast of Italy, which, in addition to merchandise, had on board a multitude of canaries. These birds, on obtaining their liberty, flew to the island of Elba, the nearest land. The climate being suitable, the little creatures rapidly multiplied. It was purely from being hunted in their retreat, to supply the growing demand for cage birds, that they became almost extirpated.

In Italy, where the first tame canaries were found, they are still raised in large numbers. A hundred years ago they were so uncommon and expensive, that only princes and people of great wealth could keep them; but now, besides the amateur fanciers and professional dealers in England, large numbers are imported from Belgium, whose birds for song and breeding are renowned all over the world.

The original colour of this bird was grey, merging into green beneath; but domestication and climate have so changed the plumage, that canaries now may be seen of almost every hue. Generally, the prevailing colour is yellow; but this plumage merges into grey, white, or cinnamon. Sometimes it is shaded with green. The tint most generally admired, however, is yellow, or white on the body, and a deep shade of yellow on the wings, head, and tail. Some prefer a golden yellow, with black or bluish-grey head, and similar wings and tail. Grey

birds, having yellow heads, with a ring about the neck, and white ones, with yellow breasts, white head and tail, are much esteemed. Birds, to be valuable, must be regularly marked.

The canary bird is usually five inches in length, of which the tail comprises two inches and a quarter. Sometimes it is difficult to distinguish the male from the female, especially young birds; but, as a rule, the male is greater in length from head to tail; his colours are deeper and brighter; he is slender in shape, and the temples and the space round the eyes are always of a brighter yellow than the rest of the body.

The best birds are those which stand upright on the perch—which appear bold and lively. Birds that are frightened at every sound they hear, or everything they see, rarely turn out to be good songsters. When a bird puts its head under its wing, it may be known to be drooping and sickly.

A great difference may be observed in the song of these birds; as much, indeed, as lies between a first-rate *primâ donna* and inferior *artistes* of third or fourth-rate talent. Some birds have organs more highly gifted than others; while some, not having a naturally fine song, can yet become educated by being placed with another which is a first-class singer. There is a great degree of emulation among these little creatures, and a vast faculty of imitation; hence arises the degrees of variety in song, because the canary will as readily pick up the notes of any bird with which it is associated, as from one of its own kind. To preserve the notes of a canary pure and unadulterated, it is imperative that it should be educated solely among other canaries.

In some countries the nightingale is employed as master musician to a whole tribe of canaries; and it is this which frequently causes foreign birds to have a different tone of voice from those which are bred in this country.

To teach a canary bird to sing, separate him from his companions, and place him in a cage by himself; cover the cage over with a cloth, and whistle a short simple tune, or play it on the flute or bird-organ. By repeating the lesson five or six times each day, especially mornings or evenings, he will learn to sing it; but it will frequently be five or six months before he will perfectly retain the whole tune.

Canary birds sometimes hatch their young every month in the year; but this is the exception, not the rule. Commonly they breed only in the spring, summer, and fall months of the year. During breeding time great care should be taken that the birds have abundance of soft food, the best kind of which is

hard-boiled egg, chopped very fine, and mixed with ground biscuits, a little maw-seed, and a small quantity of moist sugar. To facilitate the formation of egg-shells, a piece of old mortar may be put into the cage. The supply of water ought to be abundant at all times.

After the young birds are hatched, the old ones should be fed with soft food, such as lettuce, chickweed, eggs, boiled hard, taking the yoke only, mixed very fine with soaked bread. Rape-seed, with now and then a little maw-seed, is also given.

Up to the twelfth day the young birds remain naked, and are covered by the hen bird. After the thirteenth they begin to feed themselves. At a month old they may be removed from the breeding cage.

Sometimes amateur breeders find much trouble in obtaining birds. The usual time for pairing canaries is in April. Great care must be exercised in selecting birds for this purpose. The male bird will sometimes fight and peck the hen cruelly; the hens, also, are frequently known to be quarrelsome and to pluck the feathers from their mates.

The female makes the nest, the male bird bringing her the materials, which are hung up before the breeding cage in a place easy of access, and which are purchased ready for use at any bird-fancier's or corn-chandler's. The canary-hen lays from four to six eggs, one successively every day, and breeds two or three times during the season. The male takes but a short turn on the nest, leaving to the hen the greater part of this arduous duty, which occupies thirteen days. After the brood is hatched the male commences his labours, which consist in supplying the young family with food for the thirteen days above referred to, when they are unfledged and helpless. The hen during this time should never leave the nest but for the purposes of feeding, when her place is carefully supplied by the male. In this consists the difference between a good and a bad mother. Some hens are perpetually deserting their shivering offspring, unless sharply reproved by the male. The greatest care must be taken to change the food of the young birds each day; for if the bread turn sour, and they eat of it, death is certain to ensue.

Canaries are subject to many complaints, and it must be acknowledged that these are difficult to cure. Sometimes an epidemic rages amongst these birds; the most trivial causes will frequently bring on disease. Sometimes, if in a brass-wired cage, verdigris is secreted, which the bird pecks at, becomes poisoned, and dies. Taking food is no criterion of con-

valescence. Birds will frequently pick to the last moment, and generally crawl to their food and die on it. It is usual, and indeed proper, to give the bird a bath every day ; but in winter this is a prolific source of death, the bird taking cold, and dying in two or three days. Always, if possible, in purchasing a bird, select him with your own hand. There is a shameful and reprehensible practice among bird-dealers of hurting purchased birds, so that they live but a few hours in the possession of their new owners. The smell of paint in a house will often cause the death of a canary. All extremes of heat and cold are also dangerous.

The following list of complaints and remedies will be valuable :—

*Asthma*.—This may be known by the bird's short and obstructed breathing, by its moping, and its lack-lustre eye. In this case plantain and rape-seed, moistened with water, must be the only food.

*Rupture*.—The usual symptom of this complaint is the bird's excessive thinness, added to which is an entire loss of appetite. Young birds are mostly subject to this, and it arises, in the first instance, from over-feeding. A rusty nail immersed in their drinking water will be found efficacious.

*Lice*.—Canaries are much subject to these insects. They must have fresh baths daily ; the cage must be frequently washed with lime-water, and dry sand strewed in it daily. Varnished cages are supposed to keep the birds free from these insects, but they frequently swarm even through the varnish. A mahogany cage is considered by some the best preventative.

*Loss of Voice*.—This will occur frequently to the male after moulting. A piece of rusty bacon hung up for the bird to peck at is a good thing, or a little fresh butter, mixed with moist sugar. They will greedily attack either of these, and it seldom fails to restore the vocal organs. Fright will also occasion loss of voice. Sometimes a year will elapse before the bird sings again.

*Epilepsy* arises also from fright. Canaries are frequently attacked with this when their cages are cleaned. In such case nothing can be done, except to desist till the bird has recovered ; or if bleeding is considered useful, one of the tail feathers may be pulled out.

*Sneezing* is produced by an obstruction of the nostrils ; a small quill must be inserted to free them.

*Pip*.—This disease—a very common one—takes the form of swelling, or small pimples, at the extremity. The pimple must be pricked with a fine needle. Give the bird saffron in his water, and a small quantity of maw-seed in his food.

*Binding, or Costiveness,* is often the unsuspected cause of suffering and death. A good remedy is to apply a drop of sweet oil externally.

*Cramp.*—Birds are frequently seized with this disorder, which is not dangerous, however, if at once attended to. The feet must be placed in warm water, and the all-comforting maw-seed administered—sometimes crushed and mixed with the yolk of a hard-boiled egg.

Such are the well-known diseases of these favourite cage birds; but independently of these disorders, their proneness to catch cold if placed in a draught or kept in a room where there is no fire, is a frequent cause of mortality. Among all remedies, maw-seed is the favourite specific. Saffron is a good thing from time to time, but, above all, strict cleanliness, and purity of seed and water, are the best preservatives. The newly-imported bird cages, however convenient and ornamental, have, it is believed, proved a constant source of danger—certain colours containing arsenic in their preparation. Many birds are inclined to pick constantly at the bars of their prison, thus becoming poisoned. The safest possible cages are those formed of ordinary wire and wood. When a bird puffs itself out, when its eyes are lustreless, and it no longer enjoys motion, illness, more or less severe, is certainly indicated, and with all the remedies of the pharmacopœia, it must be owned that the little victim is rarely saved from the ravages of disease.

*Moulting* is a time of peculiar trial to these delicate little creatures. Care must then be taken to keep them warm. A rusty nail and saffron should be kept in their water, and occasional doses of crushed maw-seed given, but no hemp, which the bird is always better without, as its fattening propensities disorder the pet, and apoplexy is a frequent result of the bird's gluttony. Too much light proves injurious in the moulting season. Occasional indulgences, such as a bit of sugar or cake, must be sparingly granted; and green meat, though necessary, must not be given too freely. Perhaps the best indication of the bird's health is to examine the dung daily. If the bird is healthy it should neither be very soft, nor yet hard—of a white colour mixed with black; green (unless in the case of much groundsel or chickweed taken) being a sign of illness.

Canaries are, with the exception of the goldfinch, the most intelligent of all our feathered pets. Troops of performing canaries have been formed, when these tiny creatures would go through military evolutions, and perform surprising feats,

equally creditable to themselves and their teachers. They are of an affectionate nature, and are easily attached by kindness, docile and tractable in disposition. Many pleasing anecdotes are told of canaries, evincing their intelligence and fondness. Breeding and rearing is a pleasant occupation, and may be frequently rendered a lucrative one, bird shows being frequent in this country, and fancy birds fetching high prices.

### THE LINNET.

The name *Linnet* is the general designation of a bird known, also, under a variety of local appellations, some of them descriptive of the variations of plumage at different seasons and periods of life. Thus we have the Brown, Grey, and Rose Linnet; the White Linnet, the Greater Redpole, and the Lintie, or Lintwhite. The last two are terms frequently applied to the bird in Scotland, as we read in Burns:—

“ I waldna gi'e the *Lintie's* sang,  
Sae merry on the broomy lea,  
For a' the notes that ever rang  
From a' the harps o' minstrelsie.  
Mair dear to me, where buss or breer  
Amang the pathless heather grows,  
The *Lintie's* wild sweet note to hear,  
As on the ev'nin' breeze it flows.”

The linnet (for, notwithstanding the many names of the bird, that is, perhaps, the most appropriate, because its most general one) is partially a migrant within the country, though not to the same extent as the chaffinch. During the winter he passes generally from one place to another in search of food, settling down in his usual haunts towards the beginning of March, when pairing time arrives. The linnet breeds twice a-year, the female laying each time five or six bluish-white eggs, thickly marked with flesh-coloured or reddish-brown specks and stripes. The nest, which is most frequently found in pine and fir-trees, or in thick bushes and hedges of white and black thorn, is well built of fine roots, grass stalks, and moss, lined with wool and hair. The old birds feed their young from the crop, and when the whole brood is taken, will continue to do so even in the cage. Those which are intended to learn the song of some other bird should be taken out of the nest as soon as their tail feathers have begun to grow, or, in other words, before they have received any instruction in singing from the parents. From the very first the males may be distinguished

by the white collar round the neck, and the predominance of the same colour in the wings and tail.

As the linnet is a peculiarly shy bird, it is difficult to catch him in the so-called barn-floor trap, even with the aid of a decoy. In spring, before the birds have paired, a good decoy in a cage sometimes succeeds in attracting them to the decoy bush; and in autumn they may occasionally be taken with limed twigs and nooses set among the lettuces, of which vegetable they are very fond. The shepherds in some parts of the country have a peculiar mode of catching linnets. They arrange the salt-troughs for the sheep in such a manner as to entrap the birds which come near them to pick up the scattered grains.

The linnet gives place to few birds in point of song. His tone is mellow, and his notes sprightly, artfully varying into the plaintive strain, and returning again to the sprightly with the greatest address, and frequently most masterly execution. The song of the bird is esteemed by connoisseurs in proportion to the frequency with which certain clear, sonorous notes, called the linnet's crow, recur. The linnet may not only be taught the song of other birds—for example, that of the nightingale, chaffinch, and lark—but also to repeat various airs and melodies, if constantly whistled in his hearing. The bird has even been known to learn to talk, though not very distinctly. In whistling airs, the linnet exceeds all other birds, on account of the peculiar flute-like tone of his voice. The trouble of teaching the nightingale's song to a young linnet is also well repaid, for a bird so taught will delight his owners with the sweet song of the *primadonna* of the forest during the greater part of the year, when the royal singer is silent.

The linnet is best confined either in a bell-shaped, or a small four-cornered or chaffinch cage, singing most sweetly, perhaps, in the latter. It is not advisable to allow him to hop about the room, as he is a very quiet bird, sitting demurely in a corner, and therefore liable to be trod upon. He may, with more advantage, be taught to fly in and out of the window; though in all attempts to train him to these movements particular care is necessary, on account of his excessive shyness. The proper period for this experiment, which, if it succeed well, is very pleasing indeed, is either in winter, or while the birds are still very young. The best method is to confine them for a considerable time in a large cage, which should be hung in a window looking over a garden, and to feed them with crushed hemp-seed. The effect of this food, of which they are

very fond, is to make them attached to their place of confinement, as the spot, of all others in the world, where the palate is most pleased. Therefore, if they are let loose afterwards, they are sure to return after a short time to their narrow prison, to which they are bound by a thousand sweet hemp-seed associations.

In a wild state, the linnet feeds on all kinds of seeds, which he shells and softens in his crop before digesting them. He is especially fond of rape, cabbage, hemp, poppy, and linseed. In confinement, the best food is summer rape-seed, which it is not necessary to soak, as the linnet is a bird which lives on seeds alone, and, as such, is gifted with stronger digestive powers than others whose food is mixed. Hemp-seed, however, does not agree with the linnet; and it is a rather curious fact that winter rape-seed, which the bird is said to eat with impunity in his natural state, is almost poisonous to him in confinement. Care must be taken, also, not to feed him too abundantly, which may often be dangerous, on account of his more than usually plethoric habit of body. A little salt mixed with other food is found to be very useful for keeping him in good health. Such as are allowed to range the room will eat the same universal paste as other birds. A little green food is sometimes advisable, and the bird should be allowed to indulge his fondness for bathing, either in sand or water.

The diseases to which the linnet is most liable are constipation, atrophy, and epilepsy. The means of curing these disorders have been described in the chapter on the canary. The linnet, however, is one of the healthiest birds kept in confinement; and, if judiciously treated, with a regular attention to his wants, will live from twelve to sixteen years.

### THE ROBIN.

This pet, with his scarlet breast, his sweet song, his friendliness towards man, his tendency to domestic habits, has been the theme of fable, song, and legend, from time immemorial. Every one entertains a tender feeling for redbreast, when he remembers how his heart throbbed in infancy, in sympathy with the babes whose dead bodies the robin buried in the forest leaves. Other birds' notes are more pretentious, but the robin's are soft, tender, and melodious. The robin breeds differently in different places: in some countries, in the crevice of a mossy bank, or at the foot of a hawthorn in hedgerows; in others, it chooses the thickest coverts, and hides its nest in oak leaves. It lays from four to five eggs, of a dull white colour, with reddish streaks.

Rennie states that it is incorrect to say that the redbreast in summer forsakes the habitations of man, to nestle in wild and solitary places. "Many robins," he says, "are to be found in woods and forests, but I am equally certain that a greater number do not go further from their winter haunts than the nearest hedgerows. Even in the near vicinity of London—in Copen-hagen Fields, Chelsea, Battersea Fields, Peckham—wherever there is a field and a few trees, I have heard redbreasts singing the whole summer. One has been in song all the summer, not a gunshot from my house at Lee, and I have remarked another singing for several months among some elms at Lewisham Bridge, though there are houses all around and the bustle of the public road just below. The redbreast does not come, indeed, usually to the cottage for crumbs during summer, because then insects are plentiful, and this may have given rise to the common opinion. I once saw an instance, however, at Compton Bassett, in Wiltshire, in which a redbreast made a daily visit in summer within a cottage door, to pick up what he could find. It is a constant inhabitant of the greater part of the European Conti-nent. About Barnholm it is called Tourne Leden; in Norway, Peter Ronsmad; in Germany, Thomas Gierdet; with us, Red-breast and Ruddock."

The robin is seldom caged; he does not flourish well in confinement, and the peasantry have a superstition that to imprison him is unlucky; therefore, when domesticated, he generally goes at large, and his cage door is left open, a mere lodging where bobbie may domicile if he pleases.

"For ever from his threshold fly,  
Who, void of honour, once shall try,  
With base, inhospitable breast,  
To bar the freedom of his guest.  
Oh, rather seek the peasant's shed,  
For he will give thee wasted bread,  
And fear some new calamity,  
Should any there spread snares for thee."

The robin will feed on almost anything—seed, crumbs of bread, fruit, and is grateful for all, being one of the most affectionate and faithful of pets.

### THE GOLDFINCH.

This well known bird is remarkable among English song birds for the freshness and beauty of his plumage. The face is red, the poll black, and the wings are beautifully marked with yellow. The cock bird may be distinguished from the hen by

having more black on his wings, and black above the beak ; whereas the hen has red above as well as under the beak ; the male bird is also darker on the beak. Its nest is built with moss and other soft materials, and it lays five or six eggs at a time, which are pale green, marked at the end with purple, or light red spots, sometimes surrounded at the thick end with a circle of small blackish stripes. The young are fed from the crop, and previous to their first moult are grey on the head. Bird-catchers call these young birds "grey-heads." Young birds taken from the nest must be reared on poppy-seeds, and roll steeped in milk or water. Goldfinches have a greater facility in imitating the song of the canary than that of any other bird, and, paired with canaries, a beautiful species of hybrid is frequently produced. A male goldfinch should be paired with one or two hen canaries, and birds thus raised are said to excel in strength and variety of song. If the breeder possesses eggs of valuable canaries who will not hatch them, and these are removed into the nest of a goldfinch, the latter will not only hatch them, but will also feed the young. The goldfinch's song is not remarkable for brilliancy or any particular beauty ; he is but a homely kind of songster, pleasing and amusing, but very far from elaborate or scientific. He is, however, a general favourite from the gaiety of his disposition, and his tendency to indulge in odd tricks and amusing ways.

This bird eats voraciously ; he feeds upon any kind of seed or greenstuff, as groundsel, succory, salad, cabbage, with rape, canary, thistle, and alder seed. In the cage it should be fed upon poppy-seed and hemp-seed. If at liberty, and allowed freely to hop about, it will accustom itself entirely to the latter kind of food. Some pet birds of this species will take any kind of green food or vegetables that come to table, and even eat meat, though, in the wild state, insects are highly disagreeable to it.

The goldfinch is common to every part of Great Britain, and is found throughout Europe generally. Gardens and orchards are the favourite resort of these birds, who seldom affect the woods. In autumn they collect where abundance of thistles may be found, the seeds of which are its favourite food. The peasantry of Hampshire shoot these pretty creatures by dozens, hanging them in festoons to ornament their cottages. They become dry and keep without stuffing or preparation.

The disease to which goldfinches are most subject is epilepsy, for which the treatment is the same as for the canary and chaffinch ; they are also subject to sore eyes, for which they should be anointed with pure fresh butter.

Heaviness, occasioned by exclusive feeding on hemp-seed, may be cured by giving them instead soaked lettuce and thistle-seeds. At all times, the head of a thistle, occasionally supplied, preserves their health.

They are extremely subject in old age to the disease of blindness, and at the same period they lose the red and yellow colour of their wings. Delicate in their nature, and by no means easily reared in cages, there are instances of their having lived to the age of sixteen, and even twenty-four years. Wil-loughby mentions one that lived twenty-three years.

In intelligence and docility, this bird is superior to all the tribe of siskins and finches, and may be taught to do the most wonderful things: In Symes's treatise on "British Song Birds" the following account is given:—"A few years ago the Sieur Roman exhibited his birds, which were goldfinches, linnets, and canaries. One appeared, and was held up by the tail or claw without exhibiting any signs of life; a second stood on its head with its claws in the air; the third imitated a Dutch milkmaid going to market, with pails on its shoulders; a fourth mimicked a Venetian girl looking out of the window; a fifth appeared as a soldier, and mounted guard as a sentinel; and the sixth acted as a cannoneer, with a cap on its head, a firelock on its shoulder, and a match in its claw, and discharged a small cannon; the same bird acted also as if it had been wounded. It was wheeled in a barrow, to convey it, as it were, to the hospital, after which it flew away before the company. The seventh turned a kind of windmill, and the last bird stood in the midst of some fireworks which were discharged all round it, and this without exhibiting the least symptom of fear." Goldfinches are commonly taught to draw their own water up by a bucket. To tame this or any other bird in such degree that they may be at liberty to leave their cages, take the following method:—Cut from the inner plume of the pen feathers a larger or smaller portion, according to the wildness of the bird; then touch the nostrils of the bird with bergamot, or any other odorous oil, by which it is rendered so stupefied for a time as to perch quietly on the finger, or to hop from one finger to another. As soon as it sits quietly on any one finger, another finger must be placed in such a position as to cause the bird to step upon it; and as soon as it is accustomed to hop quietly from one finger to another, the chief difficulty is overcome; for the bird, gradually arriving to a sense of consciousness, and perceiving that it is not treated roughly, is brought to pay obedience to its owner's commands.

### MULE SINGING BIRDS.

These birds, which are deemed by fanciers more valuable than the common canaries, are produced by pairing a canary and goldfinch, for the best sort, or sometimes a canary and linnet; for superiority of plumage, the goldfinch and canary bring forth the handsomest birds, undoubtedly. Fanciers, however, produce an endless variety of mule birds, which fetch large prices. They are infinitely more delicate than the yellow canary, and require great care in rearing. Their habits, food, and diseases are precisely the same as the original species from which they spring.

### THE BULLFINCH.

These pretty birds, which are imported in great numbers from Germany, are distinguished for their black flat polls and red breasts. They possess the remarkable faculty of being able to acquire almost any song or tune by whistling or playing a hand organ to them. In Germany this gift is cultivated to a remarkable extent. A good piping bullfinch is indeed so valuable, that from £12 to £14 has been sometimes given for one, although but of little worth when first caught.

The bullfinch breeds sometimes as often as three times in the year, and has usually four eggs at a time; the eggs are a pale bluish colour, with dark purple blotches and small red spots at the thick end. About June the young can be removed from the nest, provided they be well feathered, but great care must be taken that they are kept warm and fed every two hours with the following mixture:—Rape-seed soaked in cold water, and afterwards scalded and strained, must then be bruised, mixed with bread, and the whole moistened with milk; two or three mouthfuls only to be given at each meal. When moulting, let a clove be put in their water, and at all times give a liberal allowance of fine gravel in the cage.

Old birds may be fed with German paste, No. 2, and occasionally with rape-seed. When teaching the bullfinch to pipe, the Germans occasionally give them a little poppy seed, and a grain or two of rice steeped in canary wine, as a reward for the improvement they make. A bird organ or flageolet is used to teach them with, but they vary very much in their capacity for learning. The first air should be exceedingly simple, and care must be taken to continue it when the bird stops, and the air must be often repeated, as otherwise he is apt to forget it. The

male bird may be distinguished by the red breast and grey back, the hen being brown all over.

The ordinary period of a bullfinch's existence is eight or nine years.

### THE LARK.

The song of the lark is somewhat monotonous, but it is cheerful, and no bird sings with more method. Those acquainted with the song of the skylark can tell, without looking, if the bird be ascending, descending, or stationary, so distinctive is the song. Sometimes the bird sings on the ground, and then the whole frame appears to be agitated by its musical efforts.

The lark builds its nest upon the ground, beneath a turf, that serves at once to hide and shelter it. The female lays four or five eggs of a dusky colour, somewhat like those of the plover. It is while she is sitting that the male usually entertains her with his song, and even when ascending in the air or descending he never loses sight of the nest. In winter these birds assemble in flocks, when their song forsakes them, and they become the prey of the bird-catcher, to furnish a delicacy for the tables of the rich and luxurious.

The lark is somewhat delicate and difficult to rear in confinement. The common field, or sky lark, is best adapted to the cage. The time for taking the young is when the tail is about three quarters of an inch in length, and they must then be fed with bread and poppy-seed soaked in milk, though ants' eggs, if they can be obtained, form a preferable diet. The young males can be distinguished by the yellow tinge of their plumage. The education of such as are taught to whistle ought to commence before they are fully fledged, as they then begin to practise their own song, and the facility with which they adopt the songs of other birds renders it necessary to hang the cage in a room by itself. When the bird is allowed to range about the room, it will thrive on the universal paste; but if confined to the cage, it may be fed on poppy-seed, crushed hemp-seed and oats, barley-groats, malt, bread crumbs, varied with a little water-cress, lettuce, and cabbage.

This bird is remarkable for the length of its claws, and Mr. Jesse, in his "Gleanings" gives the following opinion regarding the cause, viz.:—"That they were not intended to enable the bird to search the earth for food or to fix itself more securely on the branches of trees is evident, as they neither scratch the ground nor roost on trees. The lark makes its nest generally in grass fields, where it is liable to be injured by cattle grazing over it,

or by the mower. In case of alarm from either or other causes, the parent birds remove their eggs, by means of their long claws, to a place of greater security; and this transportation I have observed to be effected in a very short space of time. By placing a lark's egg, which is rather large in proportion to the size of the bird, in the foot, and then drawing the claws over it, you will perceive that they are of sufficient length to secure the egg firmly, and by this means the bird is enabled to convey its eggs to another place, where she can sit upon and hatch them."

### THE CHAFFINCH.

This bird, which is a hardy and a pleasing songster, is not often included among the feathered pets kept in cages. Linnaeus tells us that before winter all hen chaffinches migrate through Holland into Italy; but the editor of "White's History of Selborne" suggests, in a note to this natural history, that the supposed hen chaffinches may be the young birds of the previous summer, who, not having as yet assumed their male colours, are taken for the females. It is, however, assumed as a fact that, in the wild state, the hens separate from the males, and have a peculiar emigration of their own. But it is of this bird in its domesticated state that we have here to speak. The chaffinch is about the size of the house-sparrow, and, though soberly coloured, is a large, strong, and handsome bird. The breast is a light-reddish cinnamon brown, verging into white towards the tail; the head is capped with greyish green; and the wings are black, mixed with white and yellow. The beak, which is conical in shape, has the singular peculiarity of turning the colour of blue steel at pairing time, or when about to sing, remaining so till the moultling season; at other times it is white. The colour of the beak is a certain indication whether the bird is likely to sing. The female is easily distinguished from the male, being smaller, and the head, neck, and upper part of the back being of a greyish brown, the lower part light drab, and the breast reddish grey. The song of the chaffinch is very perfect of its kind, consisting of a trill of a second in duration, unbroken, and rather monotonous, which he repeats at intervals of four minutes. In Germany these birds are educated with great care, and are frequently made fine songsters, being capable of learning short tunes. In England chaffinches are little esteemed, and are not much reared. The ordinary call-note of this bird sounds like "Jack, Jack!" In health, the chaffinch is lively and bold, being in constant motion. His

song never varies, and it is impossible to mistake the notes of this bird when heard in the woods or thickets. The natural food consists in summer of insects and seeds, and grain in winter; but, in confinement, it may be fed upon rape-seed, soaked in water, or canary-seed, with only occasionally a very little hemp-seed (this last food being apt to bring on apoplexy), chickweed, or plantain, lettuce leaf, or a slice of apple, but no groundsel; meal-worms and ants' eggs, and occasionally a little meat, cut small, should be given. The moulting season is a dangerous time to chaffinches in confinement, at which period they frequently die. At this time the bird should be well-fed with insects, meat, cut small, and bread boiled in milk. It should have a bathing-pan, and fresh water in it every day. To obtain insect food, collect all the dead flies in window-sills and corners, and these, with a few meal-worms, will supply all wants of the kind.

The following are two receipts for a paste, or mixture, suitable for birds generally:—

Thoroughly soak in cold water the crumb of a stale loaf, press the water out, pour milk over the bread, and mix it with two-thirds of its own weight in barley-meal.

Or, grate a carrot which has been kept a year, then soak a penny roll in water, strain the water off, and mix the bread and carrot with two handfuls of barley-meal. These pastes, however, require to be made daily, as they become sour in twenty-four hours.

The diseases to which the chaffinch is subject are chiefly the same prevailing among all the finch tribe. Its feet are extremely subject to swell, and become covered with scales, which must be removed with a very sharp penknife; and, if the feet are sore, they should be dressed with lard, or butter.

The *pip*, though designated by the same name, is a different disease from that to which the canary is subject. This disorder is a cold, by means of which the nostrils are stopped up, and the external skin of the tongue is hardened by inflammation. A pill, made of butter, garlic, and pepper, with an infusion of the herb speedwell put into the drinking-trough, will soon effect a cure; and a fine feather should now and then be drawn through the nostrils.

*Tympany* is a disease in which the skin of a part or the whole of the body is puffed up, and made tight, by an accumulation of air beneath. The remedy is to prick the skin with a needle, and let out the confined air.

*Pairing Fever*.—This often affects the bird in the month of

**May.** The bird ceases to sing, its feathers become tough, and it wastes away. The cage should be hung before a window, and the bird cheered and enlivened, by which means it frequently recovers.

*Epilepsy* attacks the chaffinch, as well as other finches. Give a few drops of olive-oil; but if unavailing, dip the bird once or twice in ice-cold water, and cut the claws so closely that blood follows.

*Giddiness*.—This is produced sometimes from habit, rather than disease. The bird looks upward to such an extent that he becomes giddy, and falls off the perch. Cover the top of the cage in this case with a piece of cloth, which will check the propensity to look up.

*Decline* presents the same symptoms as pairing fever, except that in this case the bird displays an inordinate appetite. The most effectual remedy is to force the bird to swallow a spider, and at the same time to place a rusty nail in the water, which gives tone and strength to the inside. Green food, especially watercress, should be freely given.

*Costiveness*.—Administer a worm bruised, with saffron, and linseed-oil.

*Blindness*.—This disease always comes on if the bird is fed with too much hempseed. In Germany there is a cruel practice of blinding this bird, to make it sing.

*Cold* and *Hoarseness* should be treated with a pectoral elixir, given in an infusion of speedwell.

In conclusion, a chaffinch requires a roomy cage; that suitable to a canary is by no means large enough for this bird, who is considerably bigger; and two perches are indispensable. This, and perfect cleanliness, will insure the health and longevity of the chaffinch, which, at the same time, is a bird of an affectionate and grateful disposition, readily tamed, and showing an aptitude for learning, which would well repay the patience of its trainer.

#### THE NIGHTINGALE.

The nightingale is not only the most famed songster among singing birds, in modern times, but is celebrated by ancient poets for its delicious melody. This famous bird visits England in the beginning of April, and leaves us in August. It is only found in the southern parts of the country, and is quite unknown in Scotland, Ireland, and North Wales. The local situation of the bird is said to be occasioned by a peculiarity of food, and that it is not found in any places but those where

'owslips grow plentifully, which is the case in Devonshire and Cornwall. It is common in Surrey and the adjacent southern counties.

In confinement, great care and attention are necessary to render the nightingale sociable and healthy. Nestlings may be taken at the middle or latter end of May, but must not be removed till they are fully fledged, as they are the most tender and delicate of birds. When the nest is taken it should be placed in a basket, and be covered up very warm. The young birds must then be fed with small caterpillars, meal-worms, or fresh ants' eggs, mixed with a small portion of white bread grated and moistened. When they are able to feed themselves they should be put singly into nightingale's cages, with a little dry straw or moss, and a few days afterwards they should be supplied with a pan of water to wash in. On first placing them in the cage two or three sides of the cage must be covered, as the bird is so much alarmed if exposed on all sides, that it soon ends its life by dashing itself to pieces against the bars. Again, even the position in which the cage is placed must depend on the disposition of the bird, which must be found out by putting him in various parts of the room, till by his cheerfulness and singing you find he is in the right spot.

The very best food to give this bird, in summer, is ants' eggs, to which add daily two or three meal-worms. When ants' eggs cannot be procured fresh, roasted ox heart, or lean beef and carrot must be grated and mixed with dried ants' eggs. In autumn, the food must be varied, and ought to consist of ripe elder-berries dried and mixed with ants' eggs. Supply the cage with fresh water every day, both for drinking and bathing. The time of moulting is the most perilous to the nightingale. Then its stomach becomes out of order, which is known by the bird resting his head beneath his wing for some hours, with his eyes half-closed and his feathers ruffled. When these symptoms take place, give the bird ants' eggs, together with a spider or two, and steep some saffron in his water till it is tinted a deep orange colour.

Cramp is a disease to which this bird is likewise subject; also diseases arising from damp, cold, and inattention. Thus in autumn he frequently becomes fat and husky, and refuses his food. In these cases give him two or three spiders per day. When his bulk is reduced, keep him very warm, and give him saffron in his water. When atrophy, or wasting, attacks the nightingale, give him a fig chopped very small among his meat, and make him swallow a house spider; also

put a rusty nail in his water, which will act as a tonic. After having been two or three days in confinement he is liable to diseased feet; soak them frequently in warm water, and let the loose skin and scales, when sufficiently softened, be gently removed. If very sore, bathe them in warm water, dry them, and anoint them with fresh butter.

In 1832 Mr. Cox exhibited to the Zoological Society a nightingale in fine plumage and full song, which had been four years in confinement. He then observed that the chief error committed by persons attempting to keep these birds was the over-care bestowed on them, stating that insects were by no means vitally necessary; that chopped meat and egg was a sufficient substitute, and fully adequate to supply its wants. Nevertheless, it is no doubt a difficult task to rear and keep the nightingale in confinement.

"The creaking of the nightingale in June and the end of May is not," says Knapp, "occasional by a loss of voice, but by a change of note—a change of object. His song ceases when his mate has hatched her brood, and his croak is the hush, the warning of danger or suspicion to the infant charge and the mother bird."

The hedge nightingale is distinguishable by being marked with white, especially about the throat. The female is smaller, duller in colour, and has a greenish hue on the back. She is not so erect as the male bird, her eyes are smaller and less bright, and her throat is not so white.

### THE BLACKBIRD.

As early as the middle of January the blackbird may be heard on the bough of some leafless tree sending out his full and deep-toned song. About the middle of March he pairs, and builds his nest—generally in the bottom of a hedge, or in a thick bush. The nest itself is strong enough, but not particularly neat; it is composed principally of twigs and root-fibres, secured with a thick plaster of dirt, and its interior lined with dried grass. The eggs, generally from four to six in number, are in colour of a pale bluish-green, with dark markings. The hatching only occupies seven days, and the young birds are more brown than black; but the males are distinguishable by having a darker hue in their plumage. After the first moult the male becomes a fine black, which appears in good contrast with his yellow bill and legs. The blackbird is a sprightly, clever bird; he is capable of learning tunes, and remembers his

lessons well. His imitative powers are sometimes considerable, as proved by the following fact, recorded by the Rev. Barton Bouchier, of Wold Rectory, near Northampton, in April, 1831:—

"Within half a mile of my residence," says he, "there is a blackbird which crows constantly, and as accurately as the common cock, and nearly as loud—as it may, on a still day, be heard at a distance of several hundred yards. When first told of the circumstance, I conjectured that it must have been the work of a cock pheasant concealed in a neighbouring brake; but on the assurance that it was neither more nor less than a common blackbird, I determined to ascertain the fact with my own eyes and ears; and this day I had the gratification of getting close to it, seated on the top bough of an ash tree, and pursuing with unceasing zeal its unusual note. The resemblance to the crow of the domestic cock is so perfect that more than one in the distance were answering to it, and the little fellow seemed to take delight in competing with its rivals of the dunhill. It occasionally indulged in its usual song, but only for a second or two, resuming its more favourite note; and once or twice it commenced with crowing, and broke off in the middle to its more natural note. . . . In what way this bird has acquired its present propensity I am unable to say, except that, as its usual haunt is near a mill where poultry are kept, it may have learnt the note from the common fowl." The editor of "White's Selborne" states that he considers this circumstance as very remarkable.

The blackbird is so fond of fruit that he is murdered wholesale by his rustic enemies; but, in reality, he does a vast amount of good by destroying all snails, slugs, and insects that come in his way. When the New England farmers extirpated all the small birds, their crops were consumed by myriads of destructive insects, and they were glad to get the birds back again on any terms. As a proof of the utility of the blackbird, the following anecdote is related in "Chambers' Journal" for 1848:—

"A grass-plot attached to a country house was once visited by a dozen or two of blackbirds for several days in succession; they ploughed it up so diligently with their bills as to make the surface look rough and decayed. The owner of the property, unwilling to shoot the intruders, caused the grass-plot to be dug up in several places, when it was found to be overrun with the larvae of chafers. The birds were left in undisturbed possession, and though the walls were covered with ripe fruit, they left it

for the grubs, which they effectually destroyed, and the grass-plot soon resumed its original appearance."

In a domestic state this bird is fed on German paste, bread, fruit, potatoes, and greens. It must have a large, roomy cage, generally the results of carelessness. Amongst these, however, either wicker or wood. Its diseases are very few, and they are the hardening of the gland in which resides the oil that serves to moisten the feathers; in which case, if it be neglected, it often forms an abscess of a dangerous character. The remedy for this consists in the application of fresh butter, or the following ointment: whitelead, one part; wax, one part; olive oil, one part. The gland is sometimes cut, but this is a very nice operation, and should never be attempted by an inexperienced hand. Blackbirds in confinement should be hung out in the air whenever the weather permits. They will not sing in-doors; and it may be remarked that, however tempting may be the aptitude shown by blackbirds in acquiring tunes, its native notes are so excellent, that it is a pity to spoil them. Only those birds which have been reared from the nest, and have never known the sweets of liberty, ever become good songsters in a state of captivity.

### THE STARLING.

This handsome bird is capable of being made a most amusing pet. Starlings are migratory; vast flocks coming to this country in severe winters, and returning northward in the spring. In a wild state, they live chiefly on insects, in default of which they will eat grain. Great numbers are snared in pigeon-houses, where they frequently roost for the sake of warmth. Indeed, it is imputed to the starling that he sucks the pigeons' eggs, but there is every reason to believe this is a slander on the bird's character. The starling makes his nest of dry grass, on which he lays four or five light blue eggs, about one drachm and three quarters in weight.

The natural notes of the starling are a shrill whistle and a chattering noise. In confinement they learn to speak perfectly, and some have been known to display much cleverness in the use of language. A gentleman near Carlisle possessed one, which used to run through a string of sentences, much to the amusement of the hearers. He whistled several tunes perfectly, and would say, "Now, Ben, give us a tune; let's have the 'Blue Bells of Scotland;'" which, after a few preparative coughs, he would give them, adding, "Well done, my lad. Come here.

Give us some chopped egg. A glass of mild ale for poor Ben!" and all this in the most distinct voice. The starling may also be taught to whistle.

The starling is an amazingly proud and dainty bird. If he is touched by the hand he appears very uneasy, and instantly sets to work cleaning and pluming himself. He is very fond of bathing, and will wash himself two or three times a day, splashing the water about, and trimming his beautiful shot and speckled plumage with the greatest care. Starlings are rather difficult to rear in confinement, but when reared they attain considerable longevity, accident generally terminating their existence rather than disease.

The food of the starling in confinement is the same as that given to the blackbird—viz., paste; but they will eat bread, potato, and minced meat readily. These birds are very fond of fruit—a cherry or a bit of apple being a great treat to them. A spider or a meal-worm should be given them occasionally, and a little saffron in their drinking water keeps them in health. The bird should likewise be hung in his cage out of doors in fine weather. During the moult the starling seldom sings or talks much. It is as well at that time to keep the cage in a dark corner; and that cage, it should be remarked, is best made of wood, as large as a thrush's cage, having receptacles for food and water, and containing a pan for a bath.

#### THE THRUSH.

The thrush is found all over Europe, frequenting woods near streams and meadows, and is naturally shy and timid. Of the entire species, the song thrush is the smallest and the most attractive. In confinement it is treated like the blackbird, though it gives less trouble. In a wild state it lives on insects and berries, and is exceeding partial to snails; in the cage, the two common pastes, oatmeal moistened with milk and water, or even bran moistened with water, have been found to answer. It requires a plentiful supply of water for bathing and drinking. It is a pleasing singer, but does not take kindly to confinement, and does not readily learn any artificial note.

The male thrush is distinguished by a darker back and a glossier appearance of the feathers than the female; the belly also is white. The young birds are hatched about the middle of April, and should be kept very warm. They should be fed with raw meat, cut small, or with bread soaked in milk, with bruised hemp-seed. When able to feed themselves, give them

lean meat cut small, and bread crumbs mixed with German paste. They should be kept in a warm, dry, and sunny place.

The diseases to which the thrush is subject are chiefly the result of moulting and clogged feet.

In a natural state thrushes have been known to build their nests in human habitations, of which several instances are on record. The average age of the thrush is five years.

### THE CUCKOO.

The cuckoo is a very interesting pet—remarkable in more than one respect; but there are considerable difficulties in the way of taming the bird. These difficulties are well stated by M. Schrauroth, a German naturalist. “The cuckoo,” he says, “cannot be much recommended as a chamber bird. When old, he is exceedingly stubborn and greedy; and in general is either obstinately fierce, or apt to crouch in sullen melancholy. I have reared some; the last I found in the nest of a yellow-hammer, who seemed puzzled what to do with his large godson. The cuckoo was still blind; nevertheless he flew at me with great fury when I attempted to lay hold of him. At the end of six days, however, he began eating almost everything that was offered to him, and I took to feeding him on bird’s flesh. Yet it was a long time before he learned to eat out of his trough; continuing so violent in all his movements as to upset every vessel placed before him. He never became quite tame; but always darted at my face and hands, as well as at everything else that came near him. He seemed fond of the universal paste, and even of the excrements resulting therefrom. Throughout, he was exceedingly clumsy with his short, climbing feet; and could scarcely walk, but only jump.”

This is a bad character, indeed; but it is far worse than the poor bird deserves. No doubt the cuckoo is wild and obstinate when first taken from the nest, is stubborn when taken a prisoner in riper years, and is voracious and eager all his life long; but many instances are nevertheless known of birds which have become perfectly tame, so as to hop about the house, to feed from the hand, and even to return after the enjoyment of day-long unrestricted liberty. When quite tame, the cuckoo is exceedingly amusing in his tricks; showing more cunning than almost any other bird. It is difficult to say why the Scotch people should have chosen their name for the cuckoo (*gouk*) as a synonym for fool; for whatever other bad qualifications the bird may possess, he is certainly not stupid. However, the

cuckoo—notwithstanding all that has been seen, and imagined, and printed, and spoken about him—is still the most mysterious bird of our country. Volumes have been written on the disputed question, whether he lays his eggs invariably in the nests of other birds, or only occasionally; and the subject, the more it is ventilated, the darker it seems to become. If for no other reason, the cuckoo would be well worth making a pet, as being “the Great Unknown” of our feathered tribes.

The cuckoo, as before said, has a large appetite, which is owing to his peculiar organisation, the food being required more to supply feathers than flesh. His food, in a wild state, consists of insects and larvæ; especially the larvæ of caterpillars of the *lepidoptera*, a kind highly injurious to trees. When in confinement, it is best to feed the cuckoo on a mixed diet, made up of meat, insects, and the universal paste of wheat-meal. It is best to confine him in a large wooden cage, with a sort of ladder on either side, to hop about; but if he can be sufficiently tamed to allow him complete liberty over the house, it is still better, both for the health of the bird, and the amusement of the owners. There is no fear of the realisation of the Fool’s saying in *King Lear*—

“The hedge-sparrow fed the cuckoo so long,  
That it had its head bit off by its young.”

The worst thing about the cuckoo is the bad name he has got—a serious matter to cuckoos as well as men.

#### THE PARROT.

These well-known talking birds are imported to Europe in every variety. Many of the parrot tribe are distinguished for beautiful plumage, and the common green parrot will sometimes talk exceedingly well; but for powers of speech the grey parrots with red tails are esteemed the best. The Amazon parrot, however—a bird brought from the banks of the Amazon river—is decidedly the cleverest of the parrot tribe. The plumage of this species is green, mixed with yellow and red. They are very imitative. A parrot of this species, which is kept in the bar of a public-house, possesses the most diverting powers of speech. She mimics the customers, asks them how they will have their grog, sings whole verses of songs, and shows the highest intelligence. Her owner wanted fifty guineas for her, and advertised her in the *Times*, but no one cared to pay a price so costly, even for this accomplished bird.

Grey parrots are frequently very good talkers. To teach them, they should be covered over early in the morning and at evening, and they should then be talked to. Birds of this kind will frequently keep up a conversation, and learn to question and answer. They have the disadvantage of possessing a frightful scream, which they delight especially to reiterate if forbidden to do so. Parrots form an attachment to only one person, and that person is not always its owner or feeder; these attachments seem dictated by caprice. A lady of rank possessed a parrot, who, in spite of her petting, testified the deepest dislike to her, flying at her whenever she came near her. This lady had once set a dog at the bird, who bestowed her affection exclusively on the butler of the establishment, to whom she would go with every sign of affection and interest. Anecdotes of parrots indeed abound, from the assertion of a grave writer, that one was taught to repeat a whole sonnet of Petrarch, to that of the distiller's parrot, whose owner having suffered from an informer who lived opposite to him, taught the bird the ninth commandment—"Thou shalt not bear false witness against thy neighbour," and hung the parrot over against the informer's house, to the great delight of the whole neighbourhood, who were much edified by the bird's reiterated exhortations.

Then there is Willoughby's parrot story:—

A parrot belonging to King Henry VII., who then resided at Westminster, in his palace by the River Thames, had learned many words from the passengers as they passed to and fro up and down the river. One day, sporting on its perch, the poor bird fell into the river (so says the chronicle), crying out as he fell—"A boat! a boat! twenty pounds for a boat!" A waterman who happened to be near, hearing the cry, picked the parrot up and restored him to the king. As he perceived the bird to be a favourite, the man insisted that he ought to have a reward equal rather to his services than his trouble; and as the parrot had cried twenty pounds, he said the king was bound in honour to grant it. At last the king agreed to leave it to the parrot's own determination, which the bird hearing, cried out—"Give the knave a groat!"

A gentleman who resides at Bristol has a bird peculiarly happy in the appropriateness of her remarks. She repeats nearly one hundred sentences, and often joins in the conversation going forward. If a knock comes to the door, Polly says—"Walk in; how d'ye do?" and if no reply is given, she adds—"Pretty well, thank ye; how are you? How's your corns?"

following her observations with a hearty laugh. Should any one speak louder than usual, Polly cries—"Hear, hear;" and if any one laughs at her, she asks—"What d'ye laugh at?" A person came into the room with a bad cough; she cried out—"What a cough!" in quite a sympathetic tone. In the morning, if she sees her owner with his hat on, she says—"Is Polly's master going?" and when the door is shut—"Polly's master's gone! Good-by, master! good-by, Polly!" About the time for him to return, she keeps asking—"Is Polly's master come?" When the dinner is preparing, she says—"Polly loves the cook," and "Cook, Polly loves pudding." One of her favourite feats is to call the dog, "Busy! Busy!" and, if he comes, to drop a bone or piece of wood out of her cage on his head, laughing immoderately. She, like most parrots, bites the wood-work of her cage, for which she is scolded, and then she cries out—"Polly must be good; Polly mus'n't bite!" Towards evening, she says—"Polly go to peepy;" and will not leave off till she is covered over. She is so tame that in the day her cage is left open, and she walks about at pleasure. If she hears the bell ring, she says—"I'll go!" and knocks at the parlour-door with her beak before she enters. She whistles several tunes, and sings portions of "The days when we went gipsying," and the "Bonnets of Blue," correctly. Altogether she is a wonderful bird, her acquirements and sayings being too numerous to mention. This anecdote is told by the Rev. W. Edwards, of Wandsworth.

The tongue of the parrot greatly resembles the human tongue, but the organs which produce the sounds of speech lie farther down the throat, being made by the great motion which the os hyoides has in these birds above others. It will not, as a rule, breed in Europe. It is, however, stated that, in 1740 and 1741, many parrots were hatched in Europe. In 1801 some Amazon parrots were hatched in Rome. The climates of Europe are too cold for the warm constitution of this bird, and in winter it is never so lively nor loquacious as in warm weather. Parrots lay two or three eggs about the size of a pigeon's; they are marked with little specks, and are found in the trunks of trees. To rear a parrot, the bird taken should be a nestling, and it is mostly such that are brought to Europe by sailors, who dispose of them to bird-fanciers, by whom they are soon tamed. In domestication, the parrot feeds principally on hemp-seed and soppy bread, pieces of apple, sugar, and any kind of fruit or vegetable. It is, however, very wrong to feed a parrot indiscriminately from the family table. Oleaginous substances

should never be tasted by the bird, nor flesh meat. If fed carelessly the bird picks at its own feathers, or the plumage comes off; wounds are formed, and the bird dies a horrible death. Some parrots delight in sucking the stems of their own feathers. If they persist in this practice, rub the bird over with a solution of aloes, and she will soon desist. A parroquet, once in the writer's possession, was purchased nearly naked; in two months, by proper food only being given, she was re-covered with a beautiful apple green plumage. Sometimes this nakedness is caused by an itching of the skin. If Polly ever has a bone given her, it must be a chicken or a rabbit's, devoid of flesh on it.

It is necessary to bathe parrots regularly. Some birds are naturally disposed to bathe themselves, but others must either have a large bathing pan given them, or a shower bath administered by holding a watering-pot over the cage. It is best to dry them in the sun; if not, before the fire. Clean gravel at the bottom of the cage is likewise indispensable. Glass or earthenware is best for food and water, though, as to the last, many persons argue that parrots require no water. This is a fallacy; from experience the writer can vouch that to keep parrots from drinking is a great cruelty; they need water like other birds. A parrot now living never has any sop given her, but when supplied with dry bread or biscuit, she drops the food into her drinking trough, and eats it soft. Zinc boxes for food are injurious; tin ones require much care to keep them clean. The parrot's cage should be commodious, strong, and comfortable; the perches thick in the middle, and conveniently placed for the bird to take exercise, without hurting himself. A swing is advisable, except the bird too constantly uses it, in which case it should be removed, as it is apt to produce dulness. The cage should be of zinc or brass, five feet in height, and three feet across the widest part.

The diseases of the parrot are—

*Inflammation*, which arises from change of weather, or from the bird being placed in a draught. The bird becomes dull and inactive, sleeping in the day, which is always a sure indication of disease. Mix a supply of whole grits with bread and milk, adding to this the yolk of an egg boiled hard. Twice a-week Indian corn may be substituted, and the juice of scalded rape-seed given for drink instead of water. If these means fail, remove the bird's food for some hours, then place in its stead a small quantity of magnesia dissolved in water, or, better still, rhubarb and peppermint. After the bird has taken some it may be removed, and the usual food replaced.

*Apoplexy*.—Parrots are sometimes struck as if with a blow, and fall off their perches. Immerse the feet in hot water.

*Moult*ing occurs about every ten months. The bird must be kept warm, and cayenne pods or chili seeds given it frequently.

Another disease is the growing of the beak, which sometimes hooks so that the bird cannot eat. In this case, take it to a fancier, who has proper instruments to clip the beak.

We conclude with a pretty anecdote of two love birds, the small tribe of parrots peculiar to Guinea, which are so delicate that they mostly die on the passage to England. They are remarkable for their attachment to each other. A gentleman, much devoted to ornithological pursuits, says—

"I knew two that had lived four years together. The female became languid; her legs swelled, as with gout. It was no longer possible for her to descend and take her food as formerly; but the male assiduously brought it to her, carrying it in his bill and placing it in hers. He continued to feed her in this manner for four months. The infirmities of his mate, however, increased every day, so that at length she was no longer able to sit upon her perch; while the male, who remained close by her, seconded her feeble attempts with all his power, sometimes seizing with his bill the upper part of her wing, sometimes taking hold of her bill and attempting to take her up, repeating his efforts several times. His countenance, his gestures, his continual solicitude indicated in this most affectionate bird the most ardent desire to aid the weakness and to alleviate the sufferings of his companion. But the scene became still more interesting when the female was on the point of expiring. Her unfortunate partner then went round and round her without ceasing. He redoubled his assiduities and his tender care; he attempted to open her bill and give her some nourishment; he went to her and returned with the most agitated air, and with the utmost quietude. His faithful companion at length ceased to breathe, and from that time he languished. He died a few weeks afterwards."

#### THE JACKDAW.

The jackdaw, as is well-known, is a member of the crow family, being the smallest of the tribe. The expanse of his wing is seldom more than twenty-nine inches, and his weight does not average one pound. From the rooks and crows the jackdaw is distinguished by the grey colour of his head and neck, which contrasts so strikingly with the black hue of the rest of the plumage, that it can be discerned at a great distance, even

when the bird is on the wing. The jackdaw is very easily tamed, and richly repays the trouble of schooling him into good behaviour by his amusing manners.

Of all the members of the crow family, the jackdaw is the most intelligent. Curious anecdotes are told of the extent of his sagacity; and some have even asserted his possession of conversational powers. An odd story of this kind is told by Mudie, in his "British Birds." It runs as follows:—"In some places, one would think that there is more in the winter associations of the rooks and jackdaws than a mere accidental meeting on the same pastures. In the latter part of the season, when the rooks from one of the most extensive rookeries in Britain made daily excursions, of about six miles, to the warm grounds by the sea-side, and in their flight passed over a deep ravine, in the rocky sides (or rather side, for they inhabited the sunny one) in which there were many jackdaws, I have observed that when the cawing of the rooks, in their morning flight, was heard at the ravine, the jackdaws, who had previously been still and quiet, instantly raised their shriller notes, as if welcoming each other; and that on the return—the time of which was no bad augury of the weather of the succeeding day—the daws accompanied the rooks a little past the ravine, then both cawed their farewell, and departed. What is more singular, I have seen too frequently for its being merely accidental, a daw return for a short time to the rooks, a rook to the daws, or one from each race meet between and be noisy together for a space, after the bands had separated. With the reason I do not interfere, not being in the secret of either party; but the fact is as certain as it is curious. In order that any one who pleases may investigate the matter, I may mention that the rooks were from the woods of Panmure, the daws from the glen of Pitaisly, and the feeding ground was the low part of the parishes of Monifeith and Barry, all in the county of Angus."

The jackdaw, from the circumstance of making his nest in old buildings and ruins of every description, is naturally half tame, and becomes entirely so if reared by hand. In that case he may be allowed to run about the yard with the poultry. The bird is prized by amateurs, not so much on account of his speaking powers, which are by no means as great as those of the raven, but of his tameness, and recognition of his owner. He often becomes familiar enough to accompany his friends in their promenades, and so attentive as to notice everything that passes in the house—especially the culinary regions. Even old birds may be taught to obey a call, if their wings be cut in

autumn, and again in spring, so that they only gradually recover the power of flight. Even if he should leave the house for a while after his wings are grown, he is certain to return on the approach of winter.

The jackdaw will eat almost anything, from cock-chafers down to oat-porridge. Of mice he is particularly fond, and has quite a way of his own for appropriating them. He commonly holds the mouse tightly with his claws, tears it to pieces with his beak, and eats it with singular rapidity; and it is rather remarkable, that in this process he seldom or never spills a drop of blood, but manages to tear the animal in as scientific a manner as if it had been dissected by an anatomist. Cock-chafers also, Mr. Jackdaw kills by a single bite across the thorax, just as if he were an accomplished entomologist, and knew the vital parts of an insect. The same is the case with wasps and bees, of which he is very fond, though showing, in his mode of killing them, that he is perfectly aware of the existence of their sting. All these insects are very good food for the bird, but it is necessary, nevertheless, in order to keep him in good health, to give him vegetable food at intervals. A handful of oats on alternate days is the best and simplest, and he soon learns to grow very fond of this food. He should also have abundance of fresh water for the purpose of bathing, in winter as well as in summer, which will greatly contribute to keep him strong as well as cheerful.

### THE MAGPIE.

This well known and mischievous pet is a handsome-looking bird, with a variegated black and white plumage, beautifully shaded with green, blue, and purple. Young birds should be taken from the nest at about a fortnight old, if it is desired to tame them. When sufficiently fledged let them fly to a neighbouring tree, enticing them back again. Repeat this process till they become fully fledged; then slightly clip their pinion feathers; they will thus become familiar with their home, and return to it voluntarily after a few hours' liberty. "The disposition of this bird," says Goldsmith, "is vain, restless, loud, and quarrelsome. It is an unwelcome intruder everywhere, and never misses an opportunity when it finds one of doing mischief." Every person who has possessed such a family pet must perforce subscribe to this opinion. Noisy, pert, and chattering, the magpie is at the same time an untiring thief and

hoarder, and by no means affectionate, though it does sometimes show comparative favour to individuals.

In its habits it displays instinct unusual to other birds. Its nest is remarkable for the manner in which it is composed, and for the place the magpie selects to build it in, which is mostly in some conspicuous situation—in the middle of some hawthorn bush, or on the top of some high tree. The place, however, is invariably one difficult of access ; the nest is also fenced in, so as to avoid enemies in the air as well as denizens of earth. The kite, the crow, the sparrow-hawk, are to be guarded against ; for, as the magpie never hesitates to plunder the nests of his neighbours, he reasonably fears retaliation. In truth, the magpie's nest is a marvel of labour and ingenuity. The body of the nest is made of hawthorn branches, the thorns, sticking outwards ; within, fibrous roots, wool, and long grass making it soft and warm, and it is plastered round with mud and clay. A canopy is then woven of the sharpest thorns, leaving an entrance just large enough for the egress and ingress of the cunning and clever occupants. They who make it a practice to take magpies' nests must do so generally at the expense of torn and bleeding hands. Six or seven eggs, of a pale green colour, are laid by the magpie.

In its domestic state the magpie is docile, however, and teachable. Some birds talk extremely well, and articulate very clearly. There is a foolish custom prevalent of cutting a magpie's tongue, which only pains the poor bird, without in the smallest degree improving its speech. The sound of a magpie's voice in speaking, when at its clearest, singularly resembles that of a little child.

The magpie is greatly affected by colours, or a display of any glittering, tinselly articles. It sets up a hoarse clatter at the sight of any of these, and will not cease for some minutes. It is an extremely glutinous bird, and, if permitted, would eat to repletion. Tame magpies should have the same fare as the family—viz., bread and butter, potatoes, greens, and a small piece of meat daily, cooked or raw. An experiment was tried to keep a male and female magpie in the same cage ; but the female so pecked and fought her mate that, to save his life, they were obliged to be separated. A wicker cage is generally selected for this bird, though one of his favourite pursuits is to destroy his habitation by every means in his power.

Superstition esteems the magpie a bird of omen. In various parts of Scotland and the north of England, if one magpie is observed flying by itself, it is accounted a boding of ill-luck ;

if two, something fortunate. There is a rude rhyme prevailing in Scotland, which says of the magpie—

“ One is joy,  
Two is grief,  
Three is marriage,  
Four is death.”

The magpie's predatory habits have given rise to many anecdotes. The real history of the curious incident which made the foundation of a popular tale, drama, and even one of the most celebrated of Rossini's operas, may not be unacceptable here:—

A bell-founder in the parish of St. Jean-en-Greve, at Paris, having lost, from time to time, several silver spoons and other articles of value, at length suspected his servant maid to be the thief, and, in order to satisfy himself and to detect her if possible, he laid a couple of silver trinkets in an apartment to which himself, his wife, and the said servant were the only persons who had access. On the following day the trinkets were missing, and suspicion, of course, fell on the maid. The master questioned her as to her having been in the room. The girl hesitated for some moments, and then, in a faltering tone of voice, said she remembered to have opened the door of that room to admit the air, but had seen nothing of the things lost. This reply seemed to confirm her master more in his opinion of her guilt; he accordingly had her taken up on suspicion, and she was fully committed for trial. After the usual ceremonies of the trial, she was found guilty of the alleged crime, and suffered death accordingly. Some time after her execution, the bell-founder was sent for to arrange and repair the church bells, and on entering the steeple to examine the same, he was much surprised to find a favourite magpie he had kept about his house perched up near the church clock. Struck with the appearance of his pet in so uncommon a place, he could hardly believe it to be the same. To satisfy himself, he therefore called the bird by its name, “ Mag! mag!” It hopped a few paces towards the man, stopped suddenly, ruffled up his plumage, chattered in his way, and then fled away to a hole in the roof. Curiosity tempted the bird's master to follow it; but what words can express his astonishment and confusion when he beheld, deposited in a corner of the hole, the identical articles for which the unfortunate girl lost her life, and several others he had missed at different times!

The whole of this extraordinary affair was soon publicly known. The people, in a paroxysm of enthusiastic zeal,

threatened vengeance on the girl's accusers and judges, and, to prevent those serious consequences so much apprehended, it was found necessary to appease the multitude by an order that mass should be said, and a solemn *Domini exaudi* offered up for the peace of the girl's soul in the church of St. Jean-en-Greve, where this tragedy is recorded, and where virgins of the surrounding neighbourhood repair annually at midnight, dressed in robes of the whitest lawn, and bearing each a branch of cypress, to sing a requiem, and to implore the Divine protection for the innocent sufferer. This ceremony is still commemorated, and is called "The Mass of the Magpie."

The magpie is subject to few diseases, unless those produced by repletion, or severe moult. A forlorn, ragged fellow is Mag in his moult, when warmth and good food should be accorded him, and his feathers in a few weeks will resume their usual appearance. These birds are said to frequently arrive at a great age. At such advanced periods they usually go blind.

### THE JAY.

The jay is one of the most beautiful of the British birds; the forehead is white, streaked with black; the head is covered with long feathers, which it can erect into a crest at pleasure; the whole neck, back, breast, and belly are of a faint purple, dashed with grey. The wings are beautifully barred with black, blue, and white. The tail is black, and the feet of a pale brown. The beak is black and resembles a crow's. The female is only to be distinguished from the male by having on the neck a greyish tinge, in place of the red tint of the latter.

This bird must be taken in autumn. Choose, in a spot frequented by them, a fir or pine which stands five or six paces from any other tree; cut from this all the superfluous branches, leaving only sufficient to form a sort of ladder, and dock these to the length of two feet. Let these branches, which ought to extend ten feet from the ground to six feet from the summit of the tree, be covered with lime twigs. Under the tree is usually built a small hut, lightly roofed with brushwood. On this put a living or dead owl, or the effigy of one formed in clay; attach to this a string by which it can be moved. To attract the jays, the cry of the owl must be imitated; then the jays, the owl's mortal enemies, flock together and utter their cries; the alternate cries bring more jays, they fly on the lime twigs, fall down, and are carried by the weight through the roof of the hut. This method of snaring the bird may be practised either at day-

break or at twilight. Rarely, however, does a wild jay submit to any taming process, or live in confinement. A young bird taken from the nest may be reared and suffered to go about tamely, like a magpie. It will then subsist on the same food, and is frequently heard to speak certain words, though after all its beauty is its chief recommendation.

#### \* THE RAVEN.

"The raven," says L'Estrange, the poet, "has a reputation in the world for a bird of omen, and a kind of small prophet." The raven is celebrated in the prose and poetic writings of nearly every nation under the sun, and honoured, above all, by being the first bird mentioned in the Bible. "Noah opened the window of the ark which he had made; and he sent forth a raven, which went forth to and fro, until the waters were dried up from the earth." Ravens have been made pets from the earliest times. It is said that a raven was trained to salute the Roman Emperor, Augustus, after a victory, with the words—"Ave, Cæsar, victor, imperator (Hail, Cæsar, conqueror, chieftain)!" Yet it has commonly been regarded as a bird of ill omen. We read in the "English Parnassus":—

"Nightjars and ravens, with wide-stretched throats,  
From yews and hollies send their baleful notes:  
The om'nous raven, with a dismal cheer,  
Through his hoarse beak of following horror tells,  
Begetting strange, imaginary fear,  
With heavy echoes like to passing bells."

No bird is more widely distributed over the surface of the globe than the raven, who croaks as gravely as with ourselves on the shores of the Black and Caspian seas, visits our Indian Empire, forces its way over the guarded shores of Japan, dwells among our energetic descendants in America, ranges from Mount Etna to the Geysers of Iceland, and weathers the rigour of the Arctic regions as far as Melville's Island. Captain Ross, the well-known Arctic voyager, speaks of the raven as "one of the few birds capable of braving the severity of an Arctic winter;" and Dr. Richardson says, that "it frequents the barren grounds of the most intense winter cold, its movements being directed, in a great measure, by those of the herds of rein-deer, musk-oxen, and bison, which it follows, ready to assist in devouring such as are killed by beasts of prey or by accident. No sooner has a hunter slaughtered an animal than these birds are seen coming from various quarters to feast on

the offal; and considerable numbers constantly attend the fishing stations, where they show equal boldness and rapacity." In allusion to the power which this bird possesses of imitating the human voice, the author last quoted relates an instance of one he knew at Chatham, which, living in the vicinity of the guard-house, "more than once turned out the guard, who thought they were called by the sentinel on duty."

Some persons, with a view to facilitate the utterance of human sounds by the raven, are accustomed to cut, what is called, the string of the tongue; but it is by no means certain that this cruel operation is at all necessary to make the bird speak. There have been numerous examples of speaking ravens who never suffered under this process. Far more than the cutting of the "string" of the tongue has the mode of feeding and general treatment of the bird to do with his talking powers. If he be regularly fed, be kept quiet in general, and only such words be repeated to him as it is wished he should speak, he is sure to become a more or less fluent talker before long, particularly if his education be begun before he has attained his second year. It is with a raven's education very much as with that of a human being—painful operations seldom have the desired effect; painstaking care and attention are the secret of success.

The raven, a too well-known bird to need detailed description, is generally met with in woody districts, where he builds his nest on the highest trees. The female lays from three to five eggs, of a greenish colour, spotted with olive brown. The young, if to be tamed, must be taken when half-fledged, or about twelve days old, and fed with meat, snails, and earth-worms. After a while, bread, soaked in milk, may be given at intervals, and at the end of about a month, meat, biscuits, crusts of bread, or any scraps from the pantry or kitchen. If the bird is to be taught to speak, it is absolutely necessary that he be taken young from the nest, and the sooner his instruction is commenced the better. In this case the bird is very easily tamed, and may be allowed to run at large, or even to fly about. He will come to his meals, if accustomed to punctuality, as regularly as the clock strikes; with less attentive people, however, he will wait till he is called by name, or warned by the ringing of a bell. He is a wonderfully sagacious creature, the raven; and no Jane or Joe will surpass him in attention to the dinner or supper. No Jane or Joe, also, can be possibly more fond of shining ornaments, of gold, silver, polished brass precious stones, and Birmingham jewellery, than the bird of

omen of the ancients. All such things, of course, must be kept carefully out of his way, or else "he will steal like a raven."

### THE OWL.

"The ill-faced owl, Death's dreadful messenger."

The owl—the bird of wisdom, the companion of Minerva—has, besides a very grotesque look, not much to recommend him as a pet. The bird is nevertheless frequently kept in confinement, particularly the species called the Barn or White Owl. He is possessed of a most unmusical voice, which he likes to exert at night time, from which habit he is also called the Screech-owl. As a pet, the owl is commonly christened "Jonathan," without reference to sex—the same as a cat is mostly termed "puss," and a parrot "Polly." Those who keep owls ordinarily allow them considerable liberty when once tamed, as they are very useful in destroying rats, mice, beetles, and other vermin. It is true they will also take young pigeons, and other birds, but this they only do if in absolute want of the more delectable insect-food. The quantity of mice, worms, snails, slugs, beetles, and other insects which an owl can devour in the course of twenty-four hours is quite extraordinary. If let alone, the owl will build his nest under some projecting rafter of a stable, barn, or shed, and, sleeping all day, will sally forth about an hour before sunset in quest of food. It is amusing to watch the movements of the bird from an eminence, and see him scour the fields in all directions, like a setting dog, crouching along the hedges, and often dropping down on his prey among the corn and shrubs. Mice he seems to prefer to almost any other food, and he has a way of his own for preparing them for his palate. The unlucky mouse is first grasped across the back, and gets several sharp bites or snaps. Master owl then waits for a minute or two with the mouse in his beak; after which he throws it in the air, and catches it by the head. One more jerk then disposes of the entire mouse, with the exception of the tail, which is left sticking out of the broad beak, and is twisted and rolled about as if being prepared for a cigar. At length, the tail also is swallowed, to be thrown up again, perhaps, in the course of a couple of hours.

The bottom of the owl's nest is always filled with the fur and bones of mice, which form a dry and comparatively soft bottom for the eggs. It appears that, although the owl rejects the fur and bones of animals which he swallows, yet their

momentary presence is absolutely necessary for his digestion, and if he is deprived of them beforehand his health is sure to fail. Dogs, in the same manner, must have, now and then, bones with their food; and smaller birds, sand, shells, and other hard substances. The quantity of food which the owl manages to devour is, as already remarked, something extraordinary. It not unfrequently happens that a clever Jonathan will carry a mouse to his nest about every twelve or fifteen minutes; and to give an idea of the amount of vermin thus destroyed, it is only necessary to examine the pellets which he throws in his nest. Every pellet contains from four to seven skeletons of mice; and on one occasion it was found that the apartment of the owl, swept out after an interval of sixteen months, contained above a bushel of pellets.

The barn-owl commonly chooses for his place of repose some obscure nook in an old building—the steeple of a church, a tower, a dove-cot, or a hollow tree. There he remains from sunrise to sunset, in a nearly erect posture, with retracted neck and closed eyelids, dozing away the hours in which, from the structure of his eyes, he is unable to approach his prey, and waiting for the return of twilight. If approached in this state, instead of flying off, he raises his feathers, hisses like an angry cat, clicks his bill, and thus threatens the intruder. Should he by an accident be driven abroad, he seems dazzled and bewildered. Incapable of distinctly perceiving the objects around him, he flits about in an unsteady manner, and is glad to betake himself to some dark retreat, where he may be sheltered from the light. In this state it is comparatively easy to catch him, by driving him into a dark box; and as he not only sleeps in barns, but will go there to catch mice, he may sometimes—especially in winter—be taken by putting a sack before the air-holes. It is hardly necessary to say that the young birds are far more easily tamed than the old ones.

The best food for the owl, when domesticated, consists in the above-enumerated mice, snails, slugs, and similar animals. It commonly happens that at the beginning of his imprisonment he is rather unwilling to touch food, particularly if it should be during the breeding season. However, the great creator of appetite—hunger—is sure to bring him round again before long. Under ordinary circumstances, it is only necessary to put mice, snails, or slugs in the cage, with the certainty that the bird will eat them in the night, if undisturbed.

The owl is too wise an animal to require the doctor at any period of his existence. If he get plenty of mice, or small

birds, the hair and feathers of which clear out his crop, he is sure to be at all times of his life above linseed-oil, pepper-pills, and pectoral elixir.

A horned owl, supposed to be about a hundred years old, recently died at Arundel Castle, the seat of the Duke of Norfolk.

### THE CAT.

It has not been satisfactorily ascertained at what period cats were first classed among domestic animals. Every country has its peculiar species. In Tobolsk the cat is red; at the Cape of Good Hope, blue; in China and Japan, they have pendent ears. In Russia, it is stated, the muzzle is small and pointed, and the tail six times as long as the body. Cats are mostly the favourites of ladies. In ancient Egypt they carried their veneration for this animal to a ridiculous excess; they not only lived in splendour, but were buried with great pomp. In China this animal is indulged with a bed of down and silk, where it lies in that indolence so dearly loved by the race, decorated with a silver collar, and rings of jasper or sapphire in its ears.

Buffon gives this animal a very indifferent character. He says, "The cat may be considered as a faithless friend, brought under human protection to oppose a still more insidious enemy."

The aversion cats have to anything like slavery or imprisonment is so great, that by means of it they may be subdued to obedience; but under restraint they are very ill at ease, deprived of liberty they will die of languor. Lemery, by way of experiment, put a cat into a cage, and then suffered two or three mice to run through it. Puss, instead of destroying them, merely looked at them with indifference. The mice became bold and provoked her, but she remained quite quiet till her liberty was restored; and then, had they been in her power, the mice would have been destroyed.

Cats are but little susceptible of teaching; there have been, however, famous exceptions. Valmont de Bomare states that he saw at the fair of St. Germain cats turned musicians, who mewed sad or lively strains; an ape conducted this singular concert. Sometimes a cat can be taught to beg, to jump through the hands, or a hoop.

Active, cleanly, delicate, and voluptuous, the cat loves its ease, seeking the daintiest spots to lie on. Birds and mice are its principal game, for all cats are not good ratters. The black species, which is a degenerate one, will seldom attack a rat; it

is the grey tabby, whose fur is dark, with black rings, who is ferocious enough to attack and master rats. Black cats make affectionate pets, but are of little service in the family household. The disposition of cats, as of men, differs much in individuals. Four cats kept in a family known to the writer are remarkable for the absolute difference of their tempers. These are two black cats, one light tabby, and a dark grey. "Tootsy," a cat entirely black, of great age—for he is twelve years old—is of a sullen temper, seldom allowing himself to be coaxed, though sometimes seeking notice; petulant, and resenting freedoms by scratching, or giving a sharp blow with his paw; unsocial with his own kind, and very malicious towards his companions, biting them slyly when they are asleep; somewhat of a coward, too; yet, when this cat's mistress died, the poor creature took to moping and not eating, and seemed for many weeks as if he, too, would die; only great care and notice brought him round, with unlimited indulgence. "Jem," his companion, a black and white cat, about four years old, has, on the contrary, an affectionate temper, with a great share of spirit, and a determination to be master; yet, if ever so much teased, never biting or scratching, only testifying his displeasure by growling. "Sille," the light tabby, is one of the sweetest tempered of the feline race ever known. Anything may be done to Sille, and he will only coax and purr. A little vixen terrier will tease and play with him roughly, and he will put his paws round her neck and lick her all over; he seems perfectly incapable of resentment; while "Crab," the dark grey, shows not the least symptom of fear of dogs or anything human. Crab will fight with a large black dog called Jip, or else will sit still and regard his fury with the supremest contempt. This last cat is a fine ratter, which none of the other three are. All these cats are "toms."

Sometimes, indeed, cats testify strong attachments, and even to animals superior to themselves. A celebrated horse, the Godolphin Arabian, and a black cat were for years the warmest of friends. When the horse died in 1753, the cat sat on his carcass till it was buried, and then, crawling slowly and reluctantly away, was never seen again till her dead body was found in a hay-loft. It is customary for these animals, when they feel life about to depart, to seek some retired place to die in.

A cat was so strongly attached to a hunter in George III.'s stables, at Windsor, that whenever he was in the stable she never would leave her seat on the horse's back; and to accommodate his friend, he slept, as horses will sometimes do,

standing. This, however, injured his health, and the cat was removed to a distant part of the country.

In the eyes of cats there is this peculiarity: the contraction and dilation of the pupil is so considerable, that the pupil, which by daylight appears so narrow and small, by night expands over the whole surface of the eyeball, and their eyes seem on fire; by this peculiar conformation they see better in the dark than in the light.

Cats have a great antipathy to water, and dislike to wet their feet; yet such is their fondness for fish, that to obtain favourite prey cats have been known to seize them out of the water. Dr. Darwin tells a story of a cat who fished for trout in a mill-stream near Lichfield. They are ravenous after cooked fish, also, and their fondness for the herb valerian is a well-known fact. Cats, to be kept in health, should, moreover, have free access to grass, which is medicine to them.

It is stated in "Loudon's Gardener's Magazine" that white cats with blue eyes are always deaf. A cat of this kind—which comes from Persia originally—kept in a family, was deaf herself, and such of her kittens as were born white were deaf also, while others of her offspring who had the least trace of colour had their hearing.

The true Persian or Angora cat is a beautiful and docile creature, larger, considerably, than the common cat, with long hair, and thick, bushy, long tail; some are white, others of a dun colour. The fur of the cat has the property of emitting electric sparks, especially in frosty weather; if the fur be rubbed backwards the electric sparks come freely.

There is also a race of cats peculiar to the Isle of Man, which have no tails.

Cats are liable to many diseases, but especially to mange and to cold. When indisposed, a dose of castor-oil, or a spoonful of syrup of buckthorn, should be administered, and occasionally sulphur in their milk will keep them healthy.

#### THE DOG.

This faithful and generous animal, the friend of man, often his protector and guide, needs no description here. Of the genus *canis*, in anatomical structure and external character the dog is closely assimilated to the wolf, the jackal, and the fox, having the same kind of teeth; the canine teeth being strong, conical, pointed, and curved slightly backwards; the incisors, or cutting teeth, are six above and below. But widely different

is the disposition of the domestic dog from his fierce and savage brethren. He attaches himself to humanity, and is never so happy as when domesticated, and a sharer of his master's toil or pleasures. A faithful dog is one of those treasures at best but little appreciated, because familiar to all.

The great variety of the canine species, and their frequent resemblance to savage beasts of prey, is remarkable in the annals of natural history. There is the Esquimaux dog, which so closely resembles the wolf, that, when observed at a little distance, it is difficult to distinguish between them. It has been stated that the Esquimaux dog is a domestic variety of the wolf, but this is not true. The Esquimaux dog hates and fears the beast of prey, which it will attack only on the pressure of strong necessity.

Again, the Hare Indian's dog, found on the banks of the Mackenzie River and the Great Bear Lake, so nearly resembles the Arctic fox, that the one has been supposed, again, a domesticated species of the wild beast. In its native country the Hare Indian's dog is never known to bark, but one born in the Zoological Gardens here barked the same as any European dog of his size and race. Sometimes, indeed, the dog in its domestic state displays an inclination to abandon civilised life, and return to savage habits. Of this the following instance from the annals of sporting is an example:—A dog was left by a smuggling vessel on the coast of Northumberland. Finding himself deserted, he began to worry sheep, and did so much mischief that considerable alarm was created in the surrounding country; mangled sheep were constantly being found by the shepherds, who with difficulty recovered them. Frequently this animal was pursued by hounds and greyhounds, but when the dogs came up to him, he lay down on his back, as if asking for mercy, and in that position they never hurt him; he therefore lay quietly till the hunters came up, when he made off again without being followed by the hounds till they were excited to the pursuit, which invariably terminated unsuccessfully. One day, he was pursued from Howick to a distance of more than thirty miles, but returned thither the same evening and killed a sheep. His general abode was upon the Heugh-hill, near Howick, where he had a view of four roads that approached it. There at last this canine brigand was shot.

*The Spotted, or Coach Dog.*—There are two breeds of spotted dogs—viz., the Dalmatian and the Danish, the latter being much smaller than the former. The Dalmatian is used in his native country for the chase, but in England he has never been

so employed. He is said to have little sagacity or power of nose, but has a remarkable attachment towards horses, and is generally used as a carriage attendant by the wealthy and great to gambol before the carriage horses. This animal is elegant in form, and marked all over with numerous small, round, black or reddish-brown spots.

*The Greyhound.*—This race of dogs has been known for more than 3,000 years. The head of the greyhound is narrow and sharp, the ears high and semi-pendulous, the neck long, the chest deep, the limbs long and slender, the back considerably arched, the whole structure evincing elegance, and rendering the animal swifter in speed than any other carnivorous beast. English greyhounds have been known to run eight miles in twelve minutes' time, while the hare in pursuit has dropped dead. The differences between the Grecian and the English greyhound are that the former is not so large, the muzzle not so pointed, nor the limbs so finely formed. According to the climate from whence they originally come is the greyhound's hair. In Russia and Tartary it is long and shaggy; in Syria, Germany, and Hungary, it is rough; in Persia and Greece, silky; and smooth in southern India, south and western Europe. In the west the smooth coat is the result of importation. Scotland has long been celebrated for its greyhounds, large and wiry-coated. "Maida," Sir Walter Scott's favourite hound, was a fine specimen of the breed. He was presented to Sir Walter by the chieftain Macdonell, of Glengarry. Maida lies buried at the Gate of Abbotsford. A gravestone, with the effigy of a dog, is placed over him, and the Latin inscription—"Maidæ, tu memores dormis sub imagine Maidæ. Ad Januam Domini sit tibi terra levis." The breed of the Irish greyhound—a noble beast—is believed to be extinct. The greyhound has been charged with wanting the attachment so discoverable in other dogs, but circumstances do not sustain this accusation.

*The Sleuth, or Bloodhound.*—A terrific animal, employed in former ages to hunt down men, and still used, we believe, in Southern America in the capture of runaway slaves. An instance of the scent and ferocity of this animal may be drawn from the following anecdote:—

A servant, discharged by a northern sporting gentleman, broke into his late master's stables at night, and cut off the ears and tail of a favourite hunter. An alarm by the dog was raised within an hour, and a bloodhound was brought into the stable, which immediately discovered the scent, traced it

upwards of twenty miles, stopping at the door of a certain house from which he could not be removed. On being admitted, he ran to the top of the house, and bursting open the door of the garret, found the criminal in bed, whom he instantly seized, and would have torn to pieces but for the huntsman who was fortunately at his heels.

We come now to pet dogs, which are of various fancy breeds, and the smallness of whose size increases their marketable value. There are various breeds of pets, from the small, sharp, wiry terrier, to the delicate King Charles, or Blenheim spaniel.

*Spaniels.*—These dogs are remarkable for docility and an affectionate disposition, which, with their beauty, renders them universal favourites. This race of dogs was known, it seems, to the Romans, for its effigy is clearly figured on some of their later monuments. Fidelity is a great attribute of the spaniel.

"A spaniel was reared by the gamekeeper of a gentleman, and constantly attended its master by night and day. Wherever the gamekeeper appeared Dash was not far distant, and in nightly excursions to detect poachers, Dash neglected the game to assist his master in taking the depredators. During the last stage of a consumption that carried his owner to the grave, Dash watched unweariedly at the foot of the bed, and, when Death came, lay down by the side of the body. With great difficulty the dog was induced to take food, and though, after the funeral, he was taken to the mansion of his late master's employer, he constantly stole back to the room of the cottage where the gamekeeper died, where he would remain for hours from home. For fourteen days he constantly visited the grave, and at the end of that time the faithful dog died."

The Blenheim spaniel is a breed cultivated by one of the Dukes of Marlborough. It is essentially a toy dog, though in the field it will sometimes break out and display its sporting propensities.

Water-spaniels and rough water dogs are valuable and intelligent animals. Dr. William Hamilton relates, "that in riding from Portrush to the Giant's Causeway, they had occasion to ford the river Bush near the sea, just as some fishermen with a dog were about to haul their net. As soon as the dog perceived the men move, he ran down the river of his own accord, and took his post in the middle of it, on some shallows, where he could occasionally run and swim, and testifying all the eagerness of a dog which *sets* his game. One of the salmon escaping from the net rushed down the stream, where the dog stood ready to catch him. A chase commenced, but the dog was left behind in con-

sequence of the water deepening ; nothing daunted, the dog ran down the river again, seaward of the salmon, which a second time met him, and another chase commenced, but the salmon distanced his pursuer, and ran out to sea."

*The Poodle.*—This is a most sagacious dog, and numerous are the tricks he may be taught, and the anecdotes told of him. Mrs. Lee's account of the poodles of Milan, in a letter to Mr. London, dated March, 1830, is most amusing. The principal of these dogs, Fido, had a remarkable faculty for spelling and arithmetic. A word being dictated to him from the Greek, Latin, Italian, German, French, or English language, selected from a vocabulary containing fifty words of each tongue, and which altogether make three hundred different combinations, Fido was able to select the letters which composed the given word, and lay them in proper order at the feet of his master. His skill in arithmetic was equally remarkable. In playing *écarté* with Bianco, his companion, he excited the admiration of all who saw him. Mrs. Lee adds :—" All this passes without the slightest visible or audible sign between the poodles and their master. The spectators are placed within three steps of the carpet on which the performance goes forward. People have gone for the sole purpose of watching the master, and yet no one has found out the mode of communication established between them and their owner. Whatever this communication may be, it does not deduct from the wonderful intelligence of these animals, for there must be a multiplicity of signs, not only to be understood with eyes and ears, but to be separated from each other in their minds, or to be combined one with another for the various trials in which they are exercised."

In Mr. Jesse's "Gleanings" is the following anecdote of a poodle given :—

"A gentleman who had occasion, when in Paris, to pass one of the bridges across the Seine, had his boots, which had been previously well-polished, dirtied by a poodle dog rubbing against them. He, in consequence, went to a man who was stationed on the bridge and had them cleaned. The same circumstance occurring more than once, his curiosity was excited, and he watched the dog. He saw him roll himself in the mud of the river, and then watch for a person with well-polished boots, against which he contrived to rub himself. Finding that the shoe-black was the owner of the dog, he taxed him with the artifice, and, after a little hesitation, he confessed he had taught the dog the trick in order to procure customers. Struck with

the dog's sagacity, the gentleman purchased him at a high price, and brought him to London. He kept him tied up some time, and then released him. The dog remained with him a day or two, and then made his escape. A fortnight later he was found with his former master, pursuing his old trade on the bridge at Paris."

There are also Italian greyhounds, a delicate species of pet; pug dogs, now becoming extremely rare; and small Maltese silky dogs, all of which are much prized.

The Alpine spaniel, or the dog of St. Bernard, is a very remarkable creature. These dogs originally came from Spain, and, being sent out to clear the snow, and aid the unfortunate travellers who may have been surprised by an avalanche, they are instrumental in saving numbers of lives. Two, named Barry and Jupiter, are renowned in the annals of St. Bernard for saving many travellers.

We cannot conclude without noticing the shepherd's pet, the collie dog. This useful and intelligent animal is one of the most placid, obedient, serene, and grateful members of the canine race. Ever alive to the slightest indication of his master's wishes, prompt and gratified to execute them, he is never happier than when employed in useful service, in exerting his talents for the benefit of man, and in giving constant proofs of his inviolable attachment. For him there exist no attractions beyond the flock committed to his care. Once properly trained, he knows every individual of his flock, and will select his own from others and drive all intruders away. The shepherd of mountainous districts would be badly off without the services of this faithful ally. Naturally hardy, he subsists on the least possible food, and, in the shepherd's absence, will guard the flock as ably as his master.

Finally, in regard to the treatment of dogs, to keep them healthy let them have plenty of exercise, and do not over-feed them; let them at all times have plenty of clean water, and encourage them to swim. When they are washed no soap should be used, as it prevents them licking themselves, and they may thus become habitually dirty. Dogs should only be fed once a day. Meat boiled for dogs, and the liquor in which it is boiled thickened with barley meal makes capital food. Dogs are liable to be attacked by distemper, from four months to four years old. It prevails most in spring and autumn. The symptoms of this disease are dulness of the eye, husky cough, shivering, loss of appetite and energy, and occasional fits. During the prevalence of this complaint they should be

allowed to run on the grass; their diet should be spare, and sulphur should be put in their water. To administer medicine to a dog, place him upright on his hind legs, between the knees of a seated person; apply a cloth round his shoulders, bringing it forward over the fore legs, by which he is secured from resisting; the mouth being forced open by the pressure of the forefinger and thumb upon the tip of the upper jaw, the medicine can be introduced with the other hand, and passed into the throat, to insure its not being returned; the mouth should be then closed, and kept so till the matter given is passed down. Consult chemists who dispense cattle medicine on the diseases of dogs.

### THE GOAT.

Goats are not very frequently kept as "domestic pets," though few animals are more fit for the purpose. The goat is superior to the sheep, both in intelligence and dexterity. He approaches man spontaneously, and is easily familiarised. He is sensible of caresses, and capable of a considerable degree of attachment. He is stronger, lighter, more agile, and less timid than the sheep; and often distinguishes himself by an uncommon amount of sprightliness. He is robust, and easily nourished, for he eats almost every herb, and is injured by very few. However, his bodily temperament—which in all animals has a great influence on the natural disposition—is not essentially different from that of the sheep. These two animals, whose internal organisation is almost entirely similar, are nourished, grow, and multiply in the same manner; and their diseases are the same, except a few to which the goat is not subject. The goat fears not, like the sheep, too great a degree of heat. He cheerfully exposes himself to the sun, and sleeps under his most ardent rays without being affected with the vertigo, or any other illness or malady. He is, likewise, not at all afraid of rain or storms; but he appears to feel the effects of severe cold. His extreme capriciousness is not the least of his amusing characteristics. He walks, stops short, runs, leaps, approaches, or retires, shows or conceals himself, as if actuated by a real love of fun, and without any other cause than what arises from an extreme vivacity of temper. It almost seems as if the suppleness of his organs, and the strength and nervousness of his frame, are barely sufficient to support the petulance and rapidity of his natural movements.

The common goat of our islands is a descendant of the *segagrus*, or wild goat of the mountains of Persia and the

neighbourhood of the Caucasus. The species has been less changed by domesticity than many others, and in not a few parts of Wales and Scotland the goat still roams over the most inaccessible parts of the mountains and rocks as unrestrained as the ancestors of the tribe in Asia. The same is the case in the Alps and Pyrenees, where the goat is found at a great elevation, approaching as near the line of perpetual snow as it can find the scanty means of its sustenance. The goat there feeds on plants which to other ruminants are distasteful and even deleterious; thus, hemlock, henbane, and digitalis are eaten by him with impunity, and even the acrid euphorbia is not rejected. In Swiss homesteads the goat is very often the chief domestic pet of the house, being brightly ornamented with a red or blue silk ribbon around the neck, and showing its affection by following the children to school, and keeping the cats out of the garden. An instance occurred once, in a village near Berne, of a goat saving the life of an infant from the attack of a gigantic eagle. Goat's milk is little or never used in England, but abroad it is highly valued as being sweet and nutritive, and, besides, medicinal; which latter quality is accounted for from the animal's food being chiefly derived from the healthy mountains and shrubby pastures where sweet and aromatic herbs abound. In ancient times the skin of the goat was regarded as a most useful article of clothing. It is still manufactured abroad into the best Turkey or Morocco leather, while that of the kid—whose flesh is regarded as a delicacy—forms the softest and most beautiful leather for gloves.

The objection commonly made against keeping goats in or near the house is their peculiar smell, which is particularly strong in the rutting season—from September to November. But the odour is not disliked by all persons; and those who do not court it will do best to keep the animal in the stable with horses, if possessed of such. It is a rather singular thing that horses are extremely fond of the society of goats. Indeed, there are instances of close attachment between the horse and the stable goat; and a case is related of a pretty little pony which "fretted his life away" after his horned companion had been taken away from him. The common belief is that the odour of the goat is beneficial to the health of horses; but perhaps the real truth of the matter is, that it is the society more than the smell which the latter are fond of. It is certain that all animals are kept in better temper and greater cheerfulness by the presence of a companion than in solitude; and there is nothing unnatural in the active and sprightly goat delighting

the heart of the more sober and sedate horse. Both animals are gifted with a higher degree of intelligence than superficial observers are ready to allow them.

The female goat goes five months with young, and usually produces two kids at a birth; sometimes, however, three, and occasionally but one. It has been long disputed, but modern observations have left no doubt that the domestic goat will breed with the sheep. The celebrated naturalist, M. T. Cuvier, states that the mule, which is the result of the connection, participates in the nature of both its parents, and is also, though rarely, fruitful. "I have had," says he, "a female mule of this kind, which in its form inclined to the sheep, while it leant to the she-goat in its gait, and the form and colour of its hair. The animal did not couple till the third year with the goat, but was fruitful on this occasion. This subject has been very much discussed in scientific circles, and extensive experiments have been made, sometimes with, and at other times without, success, of crossing the two species; and, among others, Cashmere goats with Merino sheep. The result is as yet undecided, and probably will remain so for some time."

We must not conclude without cautioning those who would make a pet of this animal against the destructive effects of its fondness for all kinds of vegetable food in a garden. If allowed to roam at liberty, or within reach of the shrubs, flowers, or trees, nothing is safe from its voracity. In a few moments the goat will devour every green leaf on a shrub or rose-bush; and, if nothing more tempting be at hand, will as readily eat off the bark from almost any species of tree. Ribbons and other loose articles of drapery also tempt its appetite.

### SHEEP AND LAMBS.

There are few prettier "pets" than a lamb; yet it is seldom seen in other places than, perhaps, a country cottage, or the humble dwelling of a farm labourer. Many persons consider the sheep the most stupid of all domestic quadrupeds, and the only one which is incapable of returning to a state of nature; others object to it as being too common to be interesting—too useful to be ornamental. Both parties, we need hardly say, are in error. Those who have witnessed the boldness and agility with which the sheep of the Welsh mountains leaps from crag to crag, will scarcely venture to pronounce it dull and stupid; and those who are aware that it is precisely the so-called *common* objects of the world of which we know least, will be

the more inclined on this account to make the oldest of domestic animals a subject of daily observation.

Different names are given to the sheep, according to its sex and age. The male is called a *ram*, or *tup*. After weaning, he is said to be a *hog*, a *hoggett*, a *tup-hog*, or a *teg*; and, if castrated, a *wether-hog*. After shearing, and when he is about a year or a year and a half old, he is called a *shear-hog*, or *shearling*, or *dinmont*, or *tup*; and when castrated, a *shearing-wether*. After a second shearing, he becomes a *two-shear ram*, or *tup*, or *wether*. At the expiration of another year, he is a *three-shear ram*, and so forth. The female is a *ewe*, or *gimmer-lamb*, until weaned; and then a *gimmer*, or *ewe-hog*, or *teg*. After being shorn, she is a *shearing-ewe*, or *gimmer*, or *sheave*, or *double-toothed ewe*; and, after that, a *two*, or *three*, or *four-sheaved ewe*, or *sheave*. The age of the sheep, curiously enough, is reckoned, not from the period of their birth, but from the first shearing, although the first year may thus include fifteen or sixteen months, and sometimes more.

The natural age of sheep it is difficult to assign. They will usually live, and breed, and thrive tolerably well, until they are ten years old; but there are instances of their living and thriving to a much more protracted age. Lamerville speaks of a Spanish ram that got lambs in his thirteenth year; and when dying, soon after, was in perfect health. An English agriculturist had in his pastures, some time ago, a ewe that yeasted a pair of lambs when she was a *shearling*; had two pairs yearly for fifteen years, and in two more years produced single lambs. Nay, an extreme case is told of a Scottish farmer who had a wether nearly twenty years old, of the clan which the mountain shepherds call *guide sheep*—that is, old animals kept on purpose to guide and direct the bleating flocks upon those unfrequented wilds.

Sheep, as most persons will be aware, are completely restricted to vegetable food. The sheep has no teeth in the upper jaw, but the bars or ridges of the palate thicken as they approach the fore part of the mouth; there, also, the dense, fibrous, elastic matter of which they are constructed becomes condensed, and forms a cushion, or bed, that covers the convex extremity of the upper jaw, occupying the place of the teeth, and partly discharging their function. The herbage is firmly held between the front teeth in the lower jaw and this pad, and thus partly bitten and partly torn asunder. To this rather strong effort of mastication is owing the nodding motion of the head of the sheep.

Sheep are subjected to more than the ordinary amount of animal diseases ; and though, as a "domestic pet," these diseases seldom assume a malignant form, the animal being better provided for in this state than when in the field, all are liable to them, more or less. A very common affection is the "swelled head," occasioned by the stinging of vipers and other venomous insects. To cure it, the wool should be cut off round the wound, which ought then to be well washed with warm water, and afterwards plenty of olive oil be rubbed in. At the same time, small doses of hartshorn may be administered internally, at the rate of half a scruple of hartshorn in an ounce of water, every hour. A strange disease, called the "turnsick," or "dunt," or, more properly, "hydatid of the brain," is one to which lambs fall frequently victims. It announces itself by a peculiar languidness in the animal, dislike to food and drink, and symptoms of cerebral affection, such as turning round in sudden whirls. The means of cure of this disease are exceedingly limited ; and, as far as is known, a warm bath, and frequent mercurial friction, remains the only and by no means certain remedy. There is another similar malady, known as "water in the head," or hydrocephalus, which often affects lambs. This is commonly cured by frequent doses of medicine, made up of a combination of purgatives and tonics, such as Epsom salts, with ginger and gentian, and small doses of mercurial medicine—the blue pill—in quantities of four or five grains. Of course, in all cases, "prevention is better than cure ;" and it is easy enough to keep a pet sheep or lamb healthy, by properly attending to the three important conditions of food, shelter, and cleanliness.

A beautiful variety of the sheep, which has lately been domesticated in this country, is the Alpaca, or Peruvian sheep. This species can be highly recommended as a domestic pet. There are two varieties of this sheep, namely, the Llama and the Alpaca proper. The Llama, so well known to all readers of "Robinson Crusoe"—and who is there that has not read Defoe's charming book?—is somewhat taller than the Alpaca ; and, though in many respects an interesting animal, is too much habituated to a warm climate to make its acclimatisation worth the attempt. On the other hand, the Alpaca proper is particularly fit for the purpose. Although delicate in appearance, the Alpaca is, perhaps, one of the hardiest animals in creation. Nature has provided him with a thick skin and a warm fleece ; and, as he never perspires like the ordinary sheep, he is not susceptible of cold. The Alpaca possesses limbs adapted for springing and leaping like the goat. It resembles

the deer in skin, flesh, and general appearance ; and, though without the camel's deformities, it is gifted, like him, with patience and docility, being often used as a beast of burden by the natives of South America. The height of the Alpaca is from three to four feet, when measured from the ground to the top of the back ; the eyes are large, black, soft, and expressive ; the neck is long, slender, curved backwards, and finely set ; the head handsome, and the muzzle and ears lengthened ; the tail long, and resembling what is called a switch-tail ; and the body has a pretty tapering towards the loins, resembling that of the greyhound. As regards other points, the Alpaca has partly the character of the sheep ; for example, its incisors on the lower-jaw, and six molar teeth on each side ; and partly those of the camel, the most remarkable being a similar reservoir in the stomach for fluids, fitting him for an arid climate. To common observers, the Alpaca appears like a fine tall goat, with small head, and no horns ; but of more gentle and fleecy appearance than that animal. His abstinence is something wonderful ; and the fact of his being subject to scarcely any diseases recommends him, more than anything else, to the honorary office of pet.

### THE MONKEY.

Monkeys have got greatly out of fashion in modern times. A century or two ago there was scarcely a well-to-do citizen who did not keep his *monikin*, as the king kept his court jester. But kings had their monkeys, too. "There is to this day a merrie tale," says Francis Bacon, in his "History of King Henry VII.," "that this *monkie*, set on, as it was thought, by one of his chamber, tore his principall note-boke all to pieces, when by chance it lay forth." In still more ancient times monkeys seem to have been kept by the wholesale. It is reported of Cæsar, that passing through a certain town, and seeing all the female inhabitants stand at the door with monkeys in their arms, he asked whether, by any possibility, the women of the place ever brought forth children. Says Shakespeare : "One of them showed me a ring that he had of your daughter for a *monkey*. Tubal, it was my turquoise ; I would not have given it for a wilderness of monkeys."

Colloquially and popularly, the term "monkey" comprises a variety of animals who have this in common with each other, that they all closely approach the human species in anatomical structure, and are considered by some naturalists the physical connecting link between man and the lower

animals. Scientific writers generally divide the monkey tribe into three different classes, namely, *apes*, or monkeys without a tail; *baboons*, or monkeys with a short tail; and monkeys proper with a long tail. The finest species of the first-named class are the orang-outangs and chimpanzees, which are, however, seldom brought to Europe, as it is well known that they cannot long withstand the rigour of our northern latitude. Nevertheless, individuals of the class are occasionally to be met with here and there, and, when well-trained, are most amusing pets. The great naturalist, Buffon, had an orang-outang who acted as his valet, and who used to conduct people to the door, and to play the part of master of ceremonies. When invited to take tea he brought a cup and a saucer, placed them on the table, put in sugar, poured out the tea, and allowed it to cool before putting it to his mouth. All these actions he performed without any other instigations than the signs or verbal orders of his master, and often of his own accord. He lived one summer in Paris, and was then brought to London; but the climate of this country seemed to affect his lungs, and he died of consumption the following winter. He used to eat almost everything; but preferred ripe and dried fruits to all other kinds of food. He sometimes drank a little wine and water, but spontaneously left it for milk, tea, or other mild liquors. M. de Brosse, a French traveller, relates of two orang-outangs, a male and a female, which he had brought from the Cape of Good Hope to Paris, that they would sit at table, and help themselves to food like well-bred gentry. The male falling sick, a doctor was sent for, who (as doctors of old always did) recommended bleeding. The poor little fellow made no objection to the lancet, but, on the contrary, seemed to acquiesce in the treatment; and ever after, when feeling unwell, ran to his master, holding up his arm, and making signs to be bled.

The most common of monkeys in this country is the species called by naturalists the *simia sylvanus*, or the pigmy ape. Individuals of this family may be purchased at the dealers in the City at from two to five pounds. The haunches of this little monkey are naked, the head roundish, and the arms shorter than the body. The flatness of their face and nails, the want of a tail, and their upright carriage, give this species nearly as much resemblance to the human form as the orang-outang; but they are seldom larger in size than a common cat, and their intelligence does not average that of the dog. This species have been famous at all times as pets. Aristotle gives

a long description of the wars of the pygmies, and Addison has celebrated the same in one of the finest specimens of modern Latin poetry. It is probable that nearly all the monkeys mentioned by old writers as familiar Household Pets, belonged to this class.

The pygmy monkey is very easily tamed, and can be taught with the greatest facility a variety of amusing tricks; nevertheless, it is not advisable to allow him complete liberty, for he is rather a fanciful creature, with strong likes and dislikes. To some people he will take an unaccountable aversion at first sight, so much so as even to attack them on the spot. Others, again, he will molest with his unceasing caresses, following them at every step like an ill-bred dog. The best plan, therefore, is to keep the pet at a safe distance, where he may amuse, but not annoy. A small wooden cage hung up against the wall, with a long pole, and several cross beams in front, is the best contrivance to this effect. The chain by which Master Pigmy is attached to the cage should be of steel, long, yet very light. Thus secured, and regularly attended to in his wants, he will be as merry as a cricket, dancing on his pole the live-long day, and making the funniest grimaces at the spectator. Various modes of equipment will greatly increase the fun. Now a rifleman, then a clown, and next day a sailor. Pigmy will play his rôle in the various disguises, never tiring in his activity. It is the easiest thing in the world to teach him any kind of tricks, and, in fact, any movements for which he is not absolutely physically unfit.

The *simia sylvanus*, like all his brother monkeys, will eat any kind of food fit for human beings; but to keep him in good health in confinement, it is best to restrict him to a purely vegetable diet, and to give him nothing but water for drink. Bread, soaked in water, is the best as well as simplest food, with occasionally an apple, some carrots, turnips, or other cooked vegetables. Much fruit will hurt him, the same as it would children; and still worse is it to give him sugar, or any kind of sweetmeats. It is of the greatest importance to keep him strictly clean, and to accustom him to take his daily bath. He is by no means naturally inclined to cleanliness, and, if necessary, must be taught it by deprivation, or with the help of the stick. To such "extreme measures" Master Pet always gives way, showing that when well advised, he, too, can distinguish right from wrong.

Next to the *simia sylvanus*, the most common monkey in this country is the *simia inuus*, or magot ape. This species, the same

as the foregoing, is nearly always to be had of certain dealers in the City for a moderate price, and is more adapted for our climate than any other class of monkeys. Frequent instances are on record of magot apes having stood the greatest cold, without any apparent suffering or ill consequence. On the other hand, this animal is not by far so pleasant a pet as the pigmy. He is dull, mischievous, and fierce, and most reluctant to being taught any sort of tricks or performances. In appearance, the magot is also much farther removed from the human form than the pigmy monkey. His face is long, and not unlike that of a bull-dog; his haunches are large and prominent, and his spine ends in a small appendix of skin, apt to be mistaken for a tail. He walks on the two hind feet at times, but more frequently on all four. When erect upon his two hind legs he is generally two feet and a half high; some are three, and a few, in rare instances, four feet high. His food and mode of treatment in captivity should be the same as that of the pigmy, whom he resembles in many respects, the chief difference being that he is less intelligent. It must be said, however, in his recommendation, that he is more submissive, when thoroughly tame, than any other species of monkey. He is fond of playing with children, and allows himself to be beaten by them to almost any extent, without showing the least resentment. With cats he is also generally on an intimate footing; and, in the art of climbing up a pole, almost surpasses a squirrel.

The two species of monkeys above described are the only ones which will thrive in this climate, and as such come within the class of Domestic Pets. It now and then happens that some other species of monkey is brought over here as curiosities, but they seldom live long enough to get naturalised. Of these so brought, the *simea beelzebub*, or preacher monkey, is the most amusing. He is of the size of a fox, with black, shining eyes, short, round ears, and round beard. The hair on the body is a shining black, yet so close that the animal appears quite smooth, and as if dressed in broadcloth. The preacher monkey is a stump orator of the first class. He will go to the top of a ladder, put himself in a dignified position, and then begin an hour's chatter, making, all the while, gesticulations with hand and foot. Unfortunately, the voice of the orator is not the most agreeable, and distinguished by quantity rather than quality. The female *simea beelzebub* is rather intelligent; she carries her young on her back, like an Irishwoman, and when she wants to suckle them, takes them in her paws, pre-

senting the breast as gracefully as any human wet-nurse. There were a couple of these preacher monkeys in the former Tower Menagerie.

### THE SQUIRREL.

Few are unacquainted, we should imagine, with the appearance of a squirrel, and the restless, playful little fellow needs, therefore, hardly any description. We may mention, however, that there are several species, as the Ceylon Squirrel, the Bombay Squirrel, the Grey Squirrel, the Black Squirrel, the Varied Squirrel, the Brazilian Squirrel, the Ground Squirrel, the Fat Squirrel, and the Garden Squirrel; but it is the squirrel commonly known and reared as a family pet that we have here to particularise.

This beautiful little creature never appears wholly savage even in its wild state. It is not carnivorous, and we were about to add not destructive, until the memory of sundry blankets destroyed by a pet squirrel of our own interposed, and forbade the assertion. The squirrel, however, does not indulge in wanton mischief. He has high spirits, and possesses the attributes of being cleanly, rimble, and industrious; for this provident little animal never leaves its food to chance, but secures in summer, in some hollow tree, a vast magazine of nuts for its winter's provision, reading an impressive lesson to man, who, alas! has not always the forethought and sagacity of the squirrel.

In purchasing a squirrel, be careful to select a young one: when taken old, they are sulky and morose in disposition, and almost incapable of being tamed, besides being far less beautiful in their appearance. Old squirrels may easily be distinguished from the young, for they are larger, have stouter limbs, are of darker colour, more inclining to sandy-brown, with less of the reddish tinge in it; their teeth are also larger and stronger, and perfectly yellow, and their tails by no means so full and bushy as those of young animals. A fine young squirrel may be purchased of a bird-fancier for about five shillings. In the country they may be obtained, much cheaper, of the boys who sometimes catch them. They are often brought to Whitechapel hay market by the farmers' boys.

The animal confines itself to tall trees, never appearing in the open field or even in thickets or underwood; its nest is made of moss and dry leaves, hung between the fork of two branches. It produces three or four young at a time. It is extremely vigilant, and being as active as vigilant, it is quickly out of reach of any foe. Its cry is sharp and piercing, if hurt

or offended ; expressing pleasure by a sound not unlike the purring of a cat.

When the squirrel in his travels, and in company with others of his kind, happens to meet with a broad river or extensive lake, they are said to return into the forest, each in search of a piece of tree bark, which serves as so many boats to waft them over ; they then commit their little fleet to the mercy of the waves, every squirrel seated on its own piece of bark, fanning the air with its tail, to conduct the vessel to its desired haven. In this way they are said to cross lakes of several miles, but sometimes a gush of wind will overset the fleet, in which case a general shipwreck ensues. The Laplander on the shore, it is added, collects the dead bodies thrown up by the waves, eating the flesh thereof and making good profit by the skins. This strange story, given by Goldsmith in his description of the migration of squirrels in Lapland, he states to be attested by most credible historians, among whom are Klein and Linnaeus.

When the squirrel is taken young it is easily tamed, and becomes then a family pet of the first order; it loves warmth, and will creep into its owner's pocket or bosom. Boxes suitable for its residence are easily purchased, and with a sufficiency of nuts and bread, and a piece of flannel for his bed, Master Squirrel is the happiest and merriest of all family pets.

The squirrel's cage should be cleaned out regularly every day, or it will become offensive, and a little bird gravel sprinkled on the bottom. The sleeping-box should be furnished with some sweet hay or moss.

#### THE GUINEA PIG.

This timid, delicate, docile, and extremely elegant little creature is chiefly kept for amusement by young people and all who delight in family pets. It is a native of warmer climates than our own, but has long been rendered domestic, and is now common in every part of the world. It is of less size than a rabbit, and its legs are shorter, they are scarcely indeed seen except when the creature moves, and the neck is so short that the head seems stuck upon the shoulders. In Guinea and the Brazils it is generally of a pure white colour ; in England it is variegated with orange and black in irregular blotches. Those in which the dark colour predominates are the most largely prized. The multiplication of the race is almost incredible, six hundred being annually produced (according to Goldsmith's authority) from one female. They begin to produce at the

age of two months, and will litter six or eight times in the year.

The hair of the guinea pig is like that of a sucking pig, from whence it has taken the name. In all other respects it resembles the rabbit, both in the movement of its body and the formation of the lip, but differs in the number of its toes, having four on the front feet, and three on those behind. Of all animals these are the most helpless and inoffensive, for they have scarcely courage to defend themselves against a mouse, though they can fight very obstinately with each other. Indeed, the fault imputed to the guinea pig is that of extreme stupidity, and a disposition to be trampled on without resenting such treatment. It is said that the female will even see her young devoured without attempting to protect them.

These creatures are cleanly in their habits, yet they emit an offensive smell, which renders their admission into the house impossible. A small hutch, similar to a rabbit's, is usually appropriated for their residence. Their food should be oats, given twice a day and sparingly, so that they may not get cloyed and waste the grain. Green meat also must form a part of their daily diet, particularly wild roots—such as dandelion, sow-thistle, and plantain. They are very fond of tea leaves, which must not, however, be too frequently given to them. Parsley, carrots, fruits of all kinds, but especially apples, and sopped bread, are much relished by them. Of milk they are extremely fond, though they will not refuse water. Hay should also be given them. They are very solicitous as to their appearance, and pass nearly their whole time in cleansing each other and their young. Their sleep is extremely watchful, and the male and female never sleep at the same time, but when one slumbers the other watches. For the same reason, they are fond of dark retreats, and never venture out of concealment if they apprehend danger. As they eat like the rabbit, so also, like that animal, the guinea pig chews the cud. They grunt somewhat like a young pig, and express pain in a most piercing note.

These creatures are capable of strong attachment.

#### THE HEDGEHOG.

Possessed of a most formidable appearance, this animal is in reality one of the most harmless in the world. The defence nature has gifted it with is never used but for self-protection, for which its sharp spines or bristles effectually serve. There are two species of hedgehog: one with a nose like the snout of a

hog, the other mere short and blunt, like a dog's nose. The kind most common is the latter, an animal about six inches in length, from the tip of the nose to the extremity of the tail, which is, in fact, so concealed by the prickles, as scarcely to be visible. The nose, breast, and belly are covered with fine soft hair; the legs are very short, but notwithstanding, the animal moves with very great swiftness. The spines or prickles are two or three inches long, sharp enough to draw blood; the eyes are small, and placed high in the head, the mouth small, but furnished with teeth which the creature uses only to chew its food. When touched, or disturbed, or in danger, the hedgehog immediately rolls himself into a ball, impervious to any attack.

This animal is nocturnal in its habits; that is, it sleeps by day and comes forth at night for its prey. Its domestic use is very great, and its services should, in the metropolis, be estimated more highly than they appear to be. Domesticated in a house infested by the scourge of black-beetles and cockroaches, the hedgehog soon effects a clearance of these household pests, and treated generously and kindly, the creature is capable of being rendered tame and attached to its feeder. It will eat mice and attack rats, seemingly being vulnerable only in the eye, which, if wounded, generally ensues in the death of the animal. The hedgehog is said also to be proof against poison, even of the most deadly and quick kind. It is found in thickets, and hedges or ditches fenced with rushes, where it makes a hole to lie in, covered with moss leaves, &c. In its domestic state the creature will seize on anything to make its bed; towels, kitchen clothes, have been frequently found in its bed, and it will bury itself during the day in all kinds of odd out-of-the-way places.

Its natural food is fruit, roots, worms, and insects; but it dearly loves flesh meat, and sucks a piece of liver with avidity; in a domestic state its daily food, given at night, should be bread and milk, with a small piece of flesh meat. It has a habit of disposing of its superfluous prey, the beetles, by laying them in rows on the floor. Roaming about the kitchen at night, this diminutive creature makes great noises, and will even lift aside heavy saucerpans in pursuit of its prey. Hedgehogs are accused of being mischievous in gardens; but Buffon, who kept them tame about the house, says they are not; yet he accuses them of strange tricks. "I have often," says he, "had the female and her young brought me about the beginning of June; they are generally from three to five in number; they are white in

the beginning and only the marks of the spines appear. I was willing to rear some of them, and accordingly put the dam and her young into a tub, with abundant provision beside them; but the old animal, instead of suckling her young, devoured them all, one after another."

Hedgehogs sleep during the winter, and their young are brought forth about the beginning of summer. They can certainly remain a long time without food, but some persons fancy they require, in a domestic state, only the beetles they catch; this is not the case—feed your hedgehog regularly, and he will not do you the less service. Gipsies use the hedgehog for food, and a young fat one is said to eat very well. When accustomed to the touch of any one person, the animal will unroll itself, allow itself to be nursed, tickled, and petted. The landlord of the Angel Inn at Felton, Northumberland, kept, some years ago, a hedgehog named Tom; it was very docile, ran familiarly about the house, and would even do the work of a turnspit dog. "Some years ago, a full-grown hedgehog was put into a small yard in which was a border of shrubs. In the course of a few days he formed, beneath a small holly tree, a hole in the earth sufficiently large to receive his body. After a while a small shed was built for him in the corner of the yard, and filled with straw, but the animal would not leave his first home till it was covered over with a stone. He at last took possession of the shed, and every morning carried leaves from a distant part of the border to stop its mouth. His principal food was raw meat and mice. Of the latter he would eat six at a time, but never more; and although these were thrown to him dead, he bit them all in the neck before he began to eat any. He would also eat snails with their shells, but would leave anything for milk, which he would lap with extreme slowness. If the person who usually fed him neglected this duty, he would follow him along the yard, and if the door were open, he would go after him into the house. If meat were put near the mouth of his shed in the daytime, he would sometimes pull it in and eat it. As the weather became colder he carried more leaves into his shed, and sometimes he would not come out for two or three days successively. In this state he lived for six months, at the end of which term he died."

It is probable that the hedgehog is not long lived, though many are doubtless starved to death from the belief that they are sufficiently their own purveyors.

Dr. Buckland laid a hedgehog on the belly of a snake, with that part of the ball where the head and tail meet downwards,

and touching the reptile. The snake proceeded to crawl ; the hedgehog started, opened slightly, and seeing what was under it, gave the snake a hard bite, and instantly rolled up again. It soon opened a second time, repeated the bite, and then closed as if for defence. It opened carefully a third time, and inflicted a third bite by which the back of the snake was broken. This done, the hedgehog stood by the snake's side, and passed the whole of the snake's body through its jaws, breaking the bones at intervals of half an inch or more, by which operation the snake was rendered entirely motionless. The hedgehog then placed itself at the top of the snake's tail, and began to eat upwards, as a man would eat a radish, without intermission, but slowly, till half the snake was devoured, when the hedgehog ceased from sheer repletion. During the following night the other half of the snake was devoured entirely.

If hedgehogs obstinately curl themselves up, a little water thrown over them causes them to unfold directly.

### RABBITS.

A very pleasant, and by no means unprofitable occupation for a boy's leisure time, is keeping rabbits. Everybody cannot have a rabbit warren, but almost everybody may have a rabbit hutch. Rabbits are to be had cheap, and a rabbit hutch costs but little ; it may even be made by a clever boy out of an old box or tea-chest. For four rabbits—say, three does and a buck—the hutch must be divided into five compartments—four bedrooms and a dining-room. Each rabbit must have a separate room, and a common room where they may feed together. These arrangements are quite necessary, but they are simple and inexpensive.

The whole art of feeding rabbits properly consists in giving them one plentiful meal of dry substantial food every morning, and two of good succulent vegetables in the course of the day. Too little food put into the trough is cruel to the rabbit ; too much is simply wasteful, as the rabbits will trample on all they cannot eat, and reject it when it is soiled. Give them quite enough, but not too much, of oats, pea-flour, wheat, hard hay, ground malt or scraps of bread : this should form their solid morning meal. They must afterwards be supplied with boiled potatoes, carrots, grass, and cabbage stalks, or celery. A sufficiency of green vegetable supplies all the moisture the animals require, and renders their flesh juicy and delicate in flavour. They do not require water. But observe that the green food

must be really good—not vegetable refuse or weeds, as such cause the flesh to become soft and flabby, and very often induce disease.

Rabbits begin to breed when six months' old, and go with young a month, during which time plenty of nourishing food should be given. If frightened or harassed during this period, the doe will cast her young. A few days before she litters she begins to make preparations for the event, by cleaning out every corner of the hutch, and then tearing the fur from her breast to form a nest. As soon as she is perceived to do this, hay should be given her, with which she will run about, taking a few stalks at a time in her mouth, until she has shortened and reduced it all. She will then make a snug bed in a corner, and line it neatly with the down. Her litter will generally consist of from six to ten, and of these not more than five of the most healthy should be left her to nurse. After six weeks let these be removed to a hutch by themselves, containing but one room, and be fattened upon corn and hay, good succulent vegetables, and grass. In four or five months the heaviest may be killed, and will be found fat and well-flavoured; and each one afterwards, as week after week they come into the cook's hands, will be found larger and finer than the last. The doe will breed again immediately after the return of the buck; but it is better that they should have rest during the winter months, as the young of that season are rarely strong, and it is difficult to preserve them from the effects of cold and damp.

We need scarcely say anything about the flesh of the rabbit as an article of diet. It is a favourite dish in most countries in Europe. Soyer describes it as "a delicate article of nourishment," and tells us how to roast it, curry it, make a fricassee of it, a gibolette of it, and how to make it into puddings and pies.

The skins of the rabbits may also become a source of profit, as they are readily disposed of. Those skins of which the fur is close and fine fetch the highest price. The skins of common brown and black rabbits are employed by hatters; the large white and yellow skins are chiefly bought by furriers. General merchants are always glad to procure the skins of the "Lincolnshire rabbits," which bear a grey fur, mixed with longer hair, and tipped with white. These are exported in large quantities to Russia and China.

#### HARES.

The hare is a very interesting pet, although he is not often found domesticated. There are three varieties in this country,

namely, the common hare (the *marcia* of the Scotch), the Irish hare, and the Alpine hare. The first-named is too well known to require description ; suffice it to say, that the usual weight of the full-grown animal is from eight to nine pounds, and occasionally individuals are met with weighing as much as twelve pounds. The Irish hare is somewhat larger, but especially distinguished by his fur, which is very soft, and of a uniform reddish-brown colour on the back and sides. The Alpine hare, chiefly found in Wales and the Highlands of Scotland, is of a greyish-brown colour in summer, and nearly white in winter. The change of colour takes place gradually, and is curious to observe. About the middle of September the grey feet begin to get white, and before the end of the month all the four feet are white, and the ears and muzzle are of a brighter hue. The white colour gradually ascends the legs and thighs, and by the middle of November the whole fur, with the exception of the tips of the ears, which remain dark, is of a fine shining white. During the whole of this remarkable change in the fur no hair falls from the animal : hence it appears that the hair actually changes its colour, and that there is no renewal of it. The fur retains its white colour until the month of March, or even later, according to the temperature of the atmosphere, and by the middle of May becomes again of a greyish-brown colour.

The young hare, taken from the nest, is very easily tamed ; but the taming of the old ones is very difficult, if not impossible. The best pets are those bred in captivity of parents caught at an early age. These little creatures may be taught a variety of amusing tricks, such as dancing on their hind legs, beating a drum, &c. The beating of the drum is particularly amusing, on account of the little fellow being in the habit of turning his head coquettishly on one side, as if listening to his own music. Hares in their natural state are much given to tapping the ground with their fore feet, and therefore the art of drumming is easily taught. Young master hare may also be made, without much difficulty, to walk on a stick, to dance a jig, and even to smoke a pipe of tobacco. Nay, a story is told of a genial hare who (a four-footed Blondin) could walk the tight-rope ; but this story, let us say at once, is apocryphal—it comes from America.

The best way of keeping the hare is in a little wooden house of about six feet in length, divided into several partitions ; but he may be allowed, without danger, the run of part of the house during the day time. At night it is advisable to shut him up, for he is given to jumping about on chairs, and

tables, and cupboards, without taking into account the fragility of crockery-ware and "china ornaments." Some trouble must also be taken to accustom him to cleanliness, otherwise his odour will not always be that of *eau-de-millefleurs*. As to food, there is not much difficulty, for he will eat almost anything appreciated by human molars, and many more things besides. Of cabbage and turnips he is particularly fond; barley does not come at all amiss, and of bread he takes any quantity, if it be well buttered; but he will eat it without.

The female hare goes thirty days with young, and produces from two to five at a birth; they are born well covered with hair, and with their eyes open. The young have mostly a white spot on the forehead, which remains frequently for twelve months. During the first six or seven weeks it is well to feed them with milk, and for a few weeks longer with bread and milk. This will soon make them so tame as to follow their master—that is to say, feeder—throughout the house, exactly like a dog. If left with the mother, the young hare (leveret) will take leave at the end of a month or five weeks. He is capable of breeding when a year old. It has often been attempted to get a cross-breed between the hare and rabbit, but all experiments to this effect have hitherto been fruitless.

The reader who feels any special interest in this animal will find some interesting particulars appended to Cowper's "Epitaph on a Hare," usually bound up with the poet's works. The poet sadly says of his favourite:—

"I kept him for his humour's sake,  
For he would oft beguile  
My heart of thoughts that made it ache,  
And force me to a smile."

### THE TORTOISE.

Tortoises are usually divided into those that live on land and those that subsist in the water, but the land creature is called a tortoise, the marine one a turtle. However, it has been proved that all tortoises are amphibious, and that turtle can live on the land.

The tortoise hardly needs description. Its outward covering is composed of two great shells, the upper of which contains no less than thirteen pieces, laid flat on the ribs like the tiles of a house; the shells above and below are bound together by strong hard ligaments; there are two holes at either edge of this vaulted body, one for a very small head, shoulders, and arms, to peep

through, the other at the opposite extremity for the feet and tail. These shells the creature is never disengaged from. The small head of the tortoise contains no teeth, having but bony ridges instead, with which they gather and grind their food, and such is the strength of the jaws that they cannot be made to relax where they have once fastened. All other parts of the tortoise possess equal muscular strength. Strange to say that, with a covering perfectly impenetrable, the tortoise cannot endure to be in a shower of rain, and on this account, if attended to, it becomes an excellent weather-glass. It can refrain from eating for a very long period. The tortoise seems almost endowed with immortality. It will live though deprived of the brain, it will live though deprived of the head. They are likewise as long-lived as they are difficult to destroy; they have been known to exceed eighty years: one, kept in the garden of the Archbishop of Canterbury, was known to have lived one hundred and twenty years.

The tortoise lives chiefly on vegetables, never resorting to snails or worms, but when the former are scarce. It is fond of fruit, but will in a domestic state live on anything, and is generally kept in gardens for the sake of destroying the worms and slugs. In winter they are torpid, except in warm countries, when they frequently do not retire the whole year through.

#### WHITE MICE.

These little creatures, which are to be seen in every bird fancier's shop in London, and are the special pets of the poor Savoyard boys, are sometimes called French mice—they are of a milk-white colour, with pink eyes, pink nostrils, and paws tinged with the same hue. They do not differ in size or disposition from the common mouse, and they even partake of the disagreeable odour emanating from mice in general, but they are easily tamed. All attempts to domesticate them with the common mouse have failed, from the hostility manifested by the natives to these elegant little strangers, though they are only a variety of the same species. As domestic pets, they figure largely in animal commerce, and usually being short-lived, there is much demand for them. Sometimes they are harnessed to miniature coaches, and trot round the table with their tiny vehicle. The poor Savoyard would be at a loss without them to earn his few pence from the humane or curious. They must be kept warm, and are fed mostly with bread crumbs, or bread sopped in milk. They delight in corn or grain of any sort equally with their

commoner brethren. They keep themselves scrupulously clean. The fanciers in London mostly sell them in a small wooden cage, constructed similarly to that of a squirrel.

The fecundity of the white mouse is as great as that of the ordinary kind, which breeds at all seasons and several times in the year, usually producing six or seven young at a time, which in less than a fortnight are able to run about and shift for themselves. A celebrated writer on natural history tells us, that having placed a female mouse in a vessel of corn, he some time afterwards found one hundred and twenty mice all sprung from this original. Mice, however, seldom live longer than two or three years. When the doe has had young ones, she should be left undisturbed with her little family for three or four days.

Oatmeal and grits may be given these pretty pets equally with bread and milk; but cheese or meat—though the little animals will greedily devour either—are both objectionable. Some recommend that the bread, when soaked in milk, should be squeezed rather dry before giving it to them.

The cage generally used is furnished with one or two wheels, made of wire, with which the mice amuse and exercise themselves. The more expensive cages are fitted up like houses with separate rooms and staircases, which the mice are obliged to ascend in order to obtain their food, in the upper storey. Great care must be observed to clean the cage every morning, except after littering, when the sleeping box must not be opened at all for two or three days. Sometimes the male will devour the young, and when he once does this, he must on all future occasions be placed in a separate cage till the young are about a fortnight old, when they can take care of themselves. It is hardly necessary to state that these pets must be kept out of the reach of the cat.

### THE DORMOUSE.

Buffon distinguishes these animals into three kinds: the greater dormouse, which he calls the Lori; the middle, which he calls the Lerot; and the less, or Muscardin. These varieties differ greatly in size, the largest being equal to a rat, the smallest no bigger than a mouse. They inhabit woods or very thick hedges, forming their nests in the hollow of some tree, or near the bottom of a close shrub. Towards the approach of the cold season they collect a store of nuts, beans, and acorns, and having laid in their hoard, shut themselves up with it for the winter. As soon as they feel the first advances of cold, they

prepare to lessen its effects by rolling themselves into a ball, thus exposing the smallest surface to the weather. But it often happens that the warmth of a sunny day, or an accidental change from cold to heat, thaws their nearly stagnant fluids, and they revive. On such occasions, their provisions being laid in, they have not far to seek for food. In this manner they continue usually asleep, but sometimes waking, for about five months in the year, and as they seldom venture out of their retreats they are but rarely seen. Their nests are lined with moss, grass, and dead leaves. They bring forth three or four young at a time, and that but once a year, in the spring. They are born blind, but in a few days their eyes open, and they are soon able to seek their own food.

These little creatures are sometimes made domestic pets of, but are not particularly interesting, except to an ardent lover of natural history. They eat and sleep, and exhibit no particular attachments. Their cages must be kept perfectly clean; the sleeping box should be furnished with some soft moss, or hay, to which a little cotton may be added when the females are about to litter. The male is seldom known to devour the little ones, and therefore need not be separated from the female. During winter, dormice should be kept in a warm room.

A variety of this little creature, called the fat dormouse, is still used for food in Italy, and is taken by simply preparing a fit place for its winter quarters in any convenient wood. The place is made large enough for numbers to retire to, which they do towards the end of autumn, and are thus easily taken. These creatures were fattened for table by the ancient Romans.

#### SILKWORMS.

The keeping of silkworms has of late become a rather fashionable amusement, diverted by some even into industrial purposes. Whether it will be possible ever to grow a sufficient quantity of silk in this country, to make it worth while as a commercial speculation, is as yet a very doubtful question; but it is not the least doubtful that silkworms are highly interesting "pets," even if they are of no practical use whatever.

Silkworms are the larvae of the *phalaena bombyx mori*, a branch of a family of insects to which belong the butterflies and moths. The animal is furnished with a collection of vessels, in which is secreted, about the time of spinning, a glutinous liquid, which hardens on exposure to the atmosphere, and forms the

silk thread. The quantity furnished by one worm is usually about two thousand feet long, and is strengthened for use by doubling. In the raising of the silkworm, the first care should be to provide the food—namely, mulberry leaves. Many substitutes have been tried for the mulberry, but nothing has yet been found to take its place. The white mulberry, the leaves of which furnish the best food, is indigenous in Syria, Persia, China, Italy, and Southern Germany, and has been also frequently grown in this country. That the leaves may be gathered with ease, the tree should not be permitted to grow very tall, but be shortened every season for several years after it leaves the nursery. Sometimes the mulberry is grown in hedges, which is much to be recommended, as the leaves in this case may be gathered without any trouble whatever.

The rooms in which the worms are fed, if they are kept in any considerable number, must be furnished either with shelves one above the other, or, better still, with removable frames made of plaited willow roots, or coarse netting. They should be well ventilated, and capable of being darkened when required. There should also be arrangements for heating the place, that an equable temperature may be maintained; and the air should be kept constantly dry. All these arrangements having been completed, the first care is to procure good eggs. The best cocoons are of a white or light-yellow colour; the female cocoons are rounder in the middle than the male, which latter have also a deeper depression in the centre. Equal quantities of both are to be selected. A temperature of from sixty to eighty degrees is necessary to bring them out, and a period of two or three weeks is required. The incubation should take place in a tolerably dark room.

Soon after hatching they are permitted to come together. After a few days the male dies, and the female, after laying from five to six hundred eggs, dies a short while after. These eggs are permitted to hatch, at a time when the young leaves of the mulberry are tender, under the following conditions:—The eggs are placed in small flat boxes, which, in eight or ten days, are placed in frames covered with paper and pierced with holes, upon which some young mulberry leaves are strewed. From the tenth to the fourteenth day the eggs hatch, when they must be carried to the feeding apartment. It is necessary to use great care in this removal.

Several distinct periods, marked by successive changes in the skin, are visible in the life of the young silkworm. During the first period, the worm must be rather sparingly fed with

cut leaves ; but in the second, the supply of leaves may be increased to a considerable extent. In order to clean the frames from time to time, tender branches of mulberry must be laid over the worms, and when they have crept upon them they may be removed to a clean frame. After about a month's feeding, the worms cease eating, the body is gradually getting transparent, and the thread becomes visible. Now the "spinning chamber" must be arranged with branches of birch, upon which the worms creep and wind their cocoons. If there be but very few worms, they may be put into small conical paper bags, open on the larger side, of the description grocers make for wrapping up their goods. The operation of spinning generally occupies six or seven days, but the cocoons should not be removed until the tenth day. The chrysalis is then to be killed, which is effected by exposing the cocoons to a high heat, to steam, or the water of turpentine. They are then thrown into hot water to loosen the glue which binds the threads together, and the silk thus cleaned is wound upon a reel, at the rate of from twelve to twenty-four threads together. Nine to ten pounds of cocoons generally give one pound of silk. Of course, all cocoons must not be killed, but the best be picked out, as above directed, for the propagation of the species.

There is scarcely anything more interesting to the philosophical observer than the various wonderful changes which the little silkworm undergoes, from the first moment when its existence is inclosed in the tiniest of eggs, up to the period when the body is wrapped in beautiful glossy silk. Preachers in ancient times were fond of speaking of the silkworm as a symbol of the resurrection.

#### TURTLE-DOVES.

The constancy of the turtle-dove has passed into a proverb. Its notes are sad, tender, and somewhat affecting ; but there is no real distress in the cry. It is in reality the voice of faithful, conjugal affection, for which the turtle-dove is more celebrated than all the rest of its species.

The turtle-dove is smaller and much shyer than any of the pigeon tribe. It is distinguished from the latter by the iris of the eye, which is of a bright yellow, having a beautiful crimson circle encompassing the eye-lids. If a pair of these birds are put into a cage and one dies, the other will not survive it. It is a bird of passage, and few or none remain in our northern climates in winter. When they arrive in this country to breed in summer, they delight most in open, mountainous, sandy

countries. But they build their nests in the midst of woods, and choose the most retired situations for incubation. They feed upon all sorts of grain, but are fondest of millet-seed. The dove is not insectivorous. From its lengthened, pointed wing, few birds possess better powers of flight.

By universal consent, the turtle-dove has been taken as the emblem of love, concord, and domestic happiness, and as such has been made the theme of poets in every age. The appearance of a white dove has been superstitiously regarded as an omen of death.

### PIGEONS.

The pigeon is a bird which has been reclaimed from a state of nature, and must certainly rank among the most useful and ornamental attractions of a country dwelling. In its natural state, it is of a deep bluish ash colour, but the diversity of plumage and of hues can now be suited to the taste of the most refined fancier.

In purchasing pigeons the following should be borne in mind. The eyes of the younger pigeons are smaller, fainter, and less prominent than those of the old ones. The neck of an old bird is lengthy, strong, and hard. In the young it is weaker and softer, and the bill is sharper and less worn by the gathering of its food. An old bird likewise has darker, harder, and stronger feet, with spurs longer than the young birds, whose feet are soft, red, and tender. The age of the pigeon may also be ascertained by the brightness of the neck feathers. Pay also great attention to the number of feathers in the wings and tail: every wing has at the end three long feathers, called the flight feathers; then follow six, gradually diminishing in length; then eight smaller feathers, which gradually increase in length, three of which are longer than the rest, the centre one being particularly so. The tail has twelve feathers, six on the right, and six on the left. A fantail pigeon ought to have thirty-six feathers in its tail, and no bird is esteemed valuable possessing a less number.

Through pairing one kind of pigeon with another a great variety of them has been procured. Thus, there is the fantail, the pouter, the carrier, the tumbler, the bald-pated tumbler, the runt, the frillback, the barb, the dragoon, the jacobin, the trumpeter, and many others; but the carrier has been termed the king of pigeons on account of its great sagacity and elegance of shape. The carrier is rather larger than the common pigeon, and its feathers are very close and smooth. The carrier is in

general either dun or black in colour, but sometimes it is white, blue, splashed, or pied.

When the services of this bird are to be put in requisition, it is taken from the place to which it is desired to return, and for a time domiciled at the place from whence the intelligence is to be conveyed. It is taken to that place hoodwinked, or in a covered basket. When the time arrives for its service, a small billet, written on thin paper, is placed lengthwise under the bird's wing, and fastened by a pin to one of the feathers. When released, the bird, soaring to a great height, takes one or two turns in the air, and then commences its homeward flight. Carrier pigeons have been known to perform a journey of forty miles in an hour and a half.

Pigeons are graminivorous, and will eat, with relish, wheat, barley, oats, canary and hemp seed, peas, beans, vetches, and tares. Small tick-beans, sometimes called pigeon-beans, are also a favourite food; the smallest only should be bought. Hemp-seed must be used sparingly, as it is too stimulating. These birds require fine, fresh gravel strewed about their dwelling, to assist the digestion of food, as well as a due supply of common salt to correct acidity. Fresh water daily is likewise indispensable. The food, placed in shallow boxes, must be covered with wire netting, otherwise the bird wastes more food than he consumes. In towns many persons keep their pigeons between the garret and the roof of the dwelling-house, having holes at which they go out and in; but it is best to furnish them with a regularly built dwelling-house, the interior of which is lined with nests or holes, sub-divided by boards or stone, with a vessel of earthenware. Before each cell there should be a slip of wood to rest and coo on, separated by an upright partition, otherwise there are incessant quarrels as to the right of walking on these slips. The house should be on an elevation facing south-east, and out of the reach of vermin and cats; it should also be painted white, the birds being attracted by that colour.

Pigeons should be trained to come at call invariably before they are fed; and they may all be summoned together by it. This call, by which pigeons are enticed into their house after they have been indulged with a flight, is usually a very shrill, loud, and prolonged whistle. If some favourite food be given to them, after they have attended to the call, they will by degrees become so well trained to it, as to answer the signal whenever it is made.

The common pigeon breeds at the age of nine months, and continues breeding every month. Two eggs are mostly laid,

and ordinarily the young are male and female. One pair of pigeons ought to give nine or ten pairs in the course of the year, and will continue so to do for four years.

The diseases of pigeons are mostly the result of ill-management, or exposure to cold and damp, with improper food. To secure cleanliness, the houses must be washed out with yellow soap and warm water, at least once a week, particular care being taken that the whole is dry before the occupants re-enter their dwellings. After every brood the nests must be burnt and new ones provided. If attacked with vermin, fumigate with tobacco-smoke till the enemy is removed.

Young pigeons are attacked with what are called black or pigeon bugs, for which sprinkle the birds with tobacco dust. Sometimes a cough, called "wet roop," attacks the pigeon; for this give two or three peppercorns once in three days, and a few sprigs of green rue steeped in the bird's water. "Dry roop" is a husky cough, which the birds suffer from sometimes in moulting. Canker arises from the birds pecking each other. The sore parts must be rubbed with a mixture of burnt alum and honey every day, or if this has not the desired effect, add to it five grains of Roman vitriol dissolved in half a spoonful of white wine vinegar, and anoint as before. The fungus-like flesh round the eyes of the carrier and other pigeons, when torn, must be bathed with a solution of alum in water.

When pigeons do not moult freely, it is a sure sign of bad health; they must then be removed to a warm place, and have the tail feathers plucked out, hemp-seed must be given with their food, and a little saffron mingled with their water.

### THE AQUARIUM.

It is only within the last few years that fish have been introduced into the drawing-room as "Domestic Pets." The idea of such introduction belongs to the Chinese, who from time immemorial have been in the habit of keeping their gold-coloured carp in glass globes, within their quaint summer-houses and gay tea-gardens. It was in globes, also, that fish were introduced into our houses, and there are some persons who are still partial to these simple aquaria. However, it is a great mistake to use these globes, now that glass cases with flat sides may be had for a moderate price. The objection against globes is two-fold; for there is, first, the risk of breaking them on even the slightest touch, on account of the undue pressure of the water in all directions; and, secondly, there is the defect of a too

great abundance of light—hurtful, because unnatural, to all creatures who live in the water. Therefore, the ordinary square or oblong tanks are in every respect preferable to globes for the keeping of fish.

The first tanks made for aquarium purposes were constructed of iron, with glass on all sides. But it was soon found that this description did not at all answer the purpose, as the iron was apt to corrode, even when well painted; and the glass let in such an amount of light that vegetation soon became far more abundant than was desirable. The exuberant growth of *confervæ* on the sides of the vessel, and the accumulation of decaying vegetable matter from the cast-off leaves of the plant, showed there was still something wanting to insure success. This want was, after some time, supplied by the invention of what is called the “dark chamber” aquarium, a tank in which three sides are of slate, covered with rock-work, with slopes backward and upward from the front, and leaves this side alone of glass. The *confervæ* are thus made to grow upon the interior of the opaque sides to an extent which is quite under control; and so far from the growth being unsightly, it is converted into a direct benefit, both as regards its appearance to the eye, in covering the rock-work with verdure, and as respects its presence as necessary to decompose the carbonic acid given off from the animals. Of *confervæ*, indeed, it may be said, as of fire, to be a “very good servant, but a very bad master.” For marine, as well as for fresh-water aquaria, these “dark chamber” tanks are greatly preferable to any other description of vessels. The price of these tanks is from thirty shillings and upwards; the smallest size being eighteen inches long, thirteen broad, and five inches high.

The main difficulties at present met with in the satisfactory maintenance of the aquarium are due to our inability to imitate that most important condition of water in a natural state—its continual flow. The advantages derived from this perpetual motion are unquestionably great to the inhabitants of sea, lake, and river; so much so, as to constitute, in a great measure, their very essence of life. In a small tank the presence of decaying animal or vegetable matter, even in inconsiderable quantities, is often sufficient to destroy the purity of the water, and so to cause the death of the animals in it; for the poisonous gas, carburetted hydrogen, &c., arising from putrefaction, is there confined within a small space, and the stagnant condition of the water prevents its wholesome combination with the oxygen of the air. The only way to compensate for the

absence of motion is either to create an artificial flow by means of a reservoir above the aquarium, or to drive air into the water with a forcing-pump. The former is a very expensive affair, and scarcely adapted for private houses and therefore, the latter will have to be resorted to in nearly all cases. Consequently, a small force-pump, or, at least, a syringe, should be kept for use with each fish-tank.

For fresh-water aquaria, the following fish are best adapted :—

The *gold fish*, or *cyprinus auratus*, a species of carp introduced into Europe from China. This fish breeds freely in most of the ornamental waters of our country, as well as in tanks, but increases much more rapidly in water which has its temperature artificially raised to about eighty degrees. The gold fish reach an age of from three to five years, and seem to endure confinement better than almost any other species of the finny tribe. In summer they require to be fed with crumbs of bread, insects, and worms, but in winter they want little or no food beyond the infusoria which are found in water. To breed gold fish, it is necessary that the tank should be of considerable size, and contain a goodly number of aquatic plants.

The *common carp*, or *cyprinus carpio*, is not nearly so pretty an inhabitant of the aquarium as his gold-coloured brother, but has the advantage of being more easily obtained. *Cyprinus auratus* cost from sixpence to half-a-crown a-piece; but *cyprinus carpio* may be obtained for nothing from almost any pond or river. It is generally found in still waters, and thrives better in lakes than in streams. The common carp feeds principally on aquatic plants, but will also eat worms and insects. It is very sensitive to cold, and during the winter to some degree hibernates, taking but little food, and seeking sheltered situations. When in a natural state, and in suitable places, the carp often reaches a high age. The French naturalist, M. Buffon, speaks of a carp, in the moat of the Count de Maurepas, more than 150 years old; and a German historian asserts that somewhere in Suabia a "moss-headed" Nestor of the tribe had reached the patriarchal age of 210, as attested by a mark on his back.

The *Crucian carp* (*cyprinus carassius*) and the *Prussian carp* (*cyprinus gibelio*) are varieties of the common carp, well adapted for the aquarium. Both species are found in the neighbourhood of London; the former only in the Thames, the latter in ponds adjoining it, as well as in many other parts of England.

Next in hardness to the carp tribe, and consequently best adapted to the confinement of the aquarium, is the *Leuciscus rutilus*, commonly known as the *minnow*. This pretty little fish appears to be quite at home in the tank, and always looks well. If the water is kept properly aerated, minnows will live for years, and will even deposit their spawn among the aquatic plants in the aquarium. However, though there may be abundance of spawn, few instances are known of a breed having taken place. It is probable that to effect actual reproduction, conditions are necessary which cannot be realised in the confined space of a tank. In the spawning season the front part of the head of this fish becomes covered with small scale-like tubercles, which give him a curious appearance.

To the same family as the minnow belongs the *roach* (*Leuciscus rutilus*), one of the commonest of our fresh-water fishes, and met with in almost all the still waters and sluggish streams of the country. The fish swims in shoals, feeding on worms, and readily takes a bait, but is held in little estimation for the aquarium. Far preferable, on account of its beauty, is this the case with the *Azurine*, or *blue roach* (*Leuciscus caeruleus*), distinguished by the slate-blue colour of its back. This fish is very rare, being found only, as far as is known, in the neighbourhood of Knowsley, the magnificent seat of the Earl of Derby, in Lancashire.

Other pretty specimens of this family are the *dace* (*Leuciscus vulgaris*) and the *bleak* (*L. alburnus*), both to be met with in nearly all the places where the roach is found. The silvery-white pigment deposited on the inner surface of the scales of the bleak and the dace is largely employed by artificial pearl makers to give a lustre to their wares.

Specimens of the *tench* are sometimes kept in the aquarium, though this fish is not very fit for exhibition, on account of his propensity of hiding himself among weeds, or under the artificial rock-work. However, the fish is very hardy, and will live for a long time in a small quantity of water. The tench spawns in June, and deposits its eggs among the stems of various kinds of aquatic plants. It feeds on all kinds of soft animal substances, worms, and occasionally vegetable matter. There is a curious report current about this fish having the power of exercising the healing art on any of its companions that may be sick or injured; the name of "Doctor Fish" has been applied to it in consequence; but nothing has yet been discovered in support of the truth of the story, and the origin of the report is quite unknown.

The above species of *fresh-water* fish are the only ones that, as far as experience goes, will live and thrive in the aquarium. Perhaps many more might be imported from abroad; but little has hitherto been done in this respect, for the reason chiefly that *fresh-water* aquaria, never being well cultivated, have within the last few years quite got out of fashion. The rage is now all for marine tanks, filled with those wondrous forms of animal life which the ocean alone produces. Thus, carp must give way before sea anemones, minnows before *crustacea*, and dace and bleak before *conchifera*. It is true many of these creatures of the deep are exceedingly beautiful, and some, like the star-fish and sea-urchins, of very novel and fantastic appearance; but the difficulties in the way of stocking the aquarium with these marine animals are also not inconsiderable. First, there is the important question of expense. Most sweet-water fish may be had for little money, some gratis; but the children of the sea can be had only for hard cash, and not unfrequently for only a high price. Thus, sea anemones and *madrepores* range from one shilling to seven shillings per specimen, and a heap of shapeless-looking *annelides* may be worth half a guinea. Besides, only the sedentary forms of ocean life can be maintained in the aquarium, and it is next to impossible to possess the larger and livelier kinds of fish. Close to the sea they may, indeed, be kept with tolerable success, and in an inland situation they may be maintained with special accommodations; but, in a general way, the great difficulties attending their transit, together with the considerable expense, render even the attempt to domesticate them undesirable. Those, therefore, who wish to possess a marine aquarium, we strongly advise to restrict their collection to the more curious forms of *sedentary* animal life; while the *fresh-water* tank may be appropriately allotted to the more commonly known and quickly moving fishes and other animals. Each receptacle, when thus properly arranged with reference to the kind of objects to be kept, has its own points of interest; and when a pair of tanks are determined upon, a very pleasing kind of compensatory effect may easily be obtained.

The forms of animal life found on the sea-coast, and suitable for the marine aquarium, being endlessly diversified, it is impossible, in the limited space of this article, to give a detailed enumeration of even their names. Suffice it to say, that a list of all of them, with prices attached, may be had from the large aquarium warehouse, Portland Road, Regent's Park, the only establishment of the kind in England. Those who live near the sea-shore may easily procure themselves a variety of the beautiful

*actinia*, or *sea anemones*, as they are poetically called ; and of the *aurelia aurata*, or *common jelly fish*. The sea anemones may be seen attached to the sides of the rocks beneath the over-hanging seaweeds ; but their appearance in this position, when exposed by the receding tide, is by no means attractive, being something like the mouth of a bag when tightly drawn together by the string. It is only during high water—and, of course, in a tank, where they are always covered—that the sea anemones put forth their charms. The cone-shaped mass has now become active ; the tentacula, which had been drawn within the body of the animal, are now expanded, exhibiting, both in symmetry and colour, a striking resemblance to a flower. A very pretty aquarium may be formed of sea anemones alone, particularly in one of the slope-backed, dark chamber tanks before mentioned. With a judicious arrangement of artificial rock-work, the ground may be made to look like a combination of Alpine and garden scenery, the water, when viewed from above, presenting the appearance of a gay parterre adorned with a variety of many-coloured blossoms.

### SWANS, GEESE, AND DUCKS.

There are two species of swans kept in a domesticated state in Europe, the mute swan (*cygnus olor*), and the whistling swan (*cygnus ferus*). In this country only the first-named is known as a pet ; while in parts of the Continent—in Russia, for example—the second species is far more general. The latter differs from the former in both external and internal characteristics. Its bill is sub-cylindrical and black, with the base and margin yellow, and the head and nape have a slight yellowish tinge. The rest of the plumage is white. When on the wing these birds emit a sort of cry, which is, perhaps, a little more sonorous than that of the wild goose ; but it is anything but musical, or even whistling, unless we compare it to a fitful and thumping wind whistling through leafless trees, or along broken crags. “ Whoo ! whoo ! ” hoarse, long drawn out, and somewhat guttural, is the music of the “ tuneful swan.”

Our common swan is not an indigenous bird, although he may be considered as such through centuries of domestication. He is certainly one of the handsomest and most graceful birds of the rivers and ornamental waters of Great Britain. The swan is better worth the trouble of keeping than is sometimes supposed, not only on account of his beauty, but because of his profitability. He requires less care and attention than the goose, and his

feathers are far more valuable. On the Continent these feathers form an important article of commerce, being brought in large quantities to the great fairs at Leipzig and at Frankfurt-on-the-Oder. The skins, with the down on them, are also applied to the same purpose as furs, and are often used for the "powder-puffs" so well known to nurses. Lastly, the flesh of the cygnets is considered a great delicacy.

The length of the full-grown male swan is from four feet to four feet and a half; the extent of the wings about seven feet, and the weight about twenty-five pounds. In their mature plumage there is no external difference of appearance in the sexes. The nest is built of reeds and sedges, on a dry spot near the water; the eggs are from five to eight in number, and the incubation lasts about six weeks. The female sits closely, and the male keeps guard the while with much vigilance. In defence of their young, either the male or female will hit a severe blow with the bend of the wing, much more severe than they who think merely of the mass, and do not take into account the velocity which muscles of flight are capable of producing, would be apt to suppose. The young are grey at first, and do not acquire their white plumage till the second year.

Swans are much more aquatic than geese, being generally upon the water, in which their long neck enables them to dabble to a considerable depth. To keep them in good health, it is advisable to provide shelter of some sort for them during the winter, and to feed them occasionally should the season be very severe. They eat indiscriminately vegetable food and the small animals that inhabit the waters, or the ooze at the bottom of the shallows. Under proper treatment the swan will reach a very high age—in some instances, it is said, as much as a hundred years.

It is hardly necessary to remark that the story of the swan's "dying song" is an invention of the poets. The whistling swan above noticed is the only bird of the genus which is at all capable of uttering sounds, and his song is most decidedly unusual. However, poets can scarcely be expected to mind such little matters.

Geese can hardly be kept to advantage unless they can have access to abundance of grass; but in that case they give very little trouble. For pets, however, where swans are out of the question, ducks are far preferable to geese. Their intelligence is surprising, and their habits most interesting. The Muscovy duck will thrive very well without access to water, and all the

varieties are extremely social, and faithful in their attachment to home.

### POULTRY.

The most important of the many different varieties of poultry are the Cochin-china, or Shanghae; the Hamburg, the Dorking, the Dunghill, the Game, the Polish, the Spanish, and the Bantam.

The Shanghae is among the most useful of the different breeds. There are several different kinds, among which are the buff, the partridge, and the grey. Shanghaes are excellent layers, and will sometimes lay an egg a-day for several months in succession. They also are good sitters, and will sometimes bring up three broods in the year. They lay very large eggs.

The Hamburgs are among the most beautiful and useful varieties of the species. Of these there are several distinct kinds—viz., the golden-pencilled, silver-pencilled, golden-spangled, and silver-spangled. They have come into repute from the great number of eggs they produce, sometimes laying as many as two hundred and fifty within the year. They seldom or never want to sit.

The Dorking, which has five toes on each foot, instead of four, is one of the most useful breeds, perhaps. Their size and flavour, together with their laying, sitting, and hatching properties, should recommend them to every poultry keeper. There is, however, a great mortality among their chickens, sometimes two-thirds of the brood dying before they are a month old.

The Dunghill fowl is a mongrel breed, arising from crosses with the other breeds. The best of this sort are of a middle size, and dark colour.

The Game is the proper English fowl; the eggs, though small, are rich. They have a great propensity to fighting, which, though they may be crossed with other breeds, renders them a source of risk and trouble.

The Polish, which are distinguished by the beautiful tuft of feathers on their heads, are called *everlasting layers*, from the number of eggs they lay. The kinds in most repute are the golden-spangled, the silver-spangled, and the black with white crests. They seldom want to sit, and, if permitted to do so, they generally abandon the eggs in less than a week.

The Spanish fowl is very large, and lays large eggs. The only kinds worthy of notice are the Black—which has a large, bright red comb and wattles; and white cheeks—the White,

and the Blue, or Andalusian. They do not sit well, on account of their long legs, by which they are very apt to break their eggs.

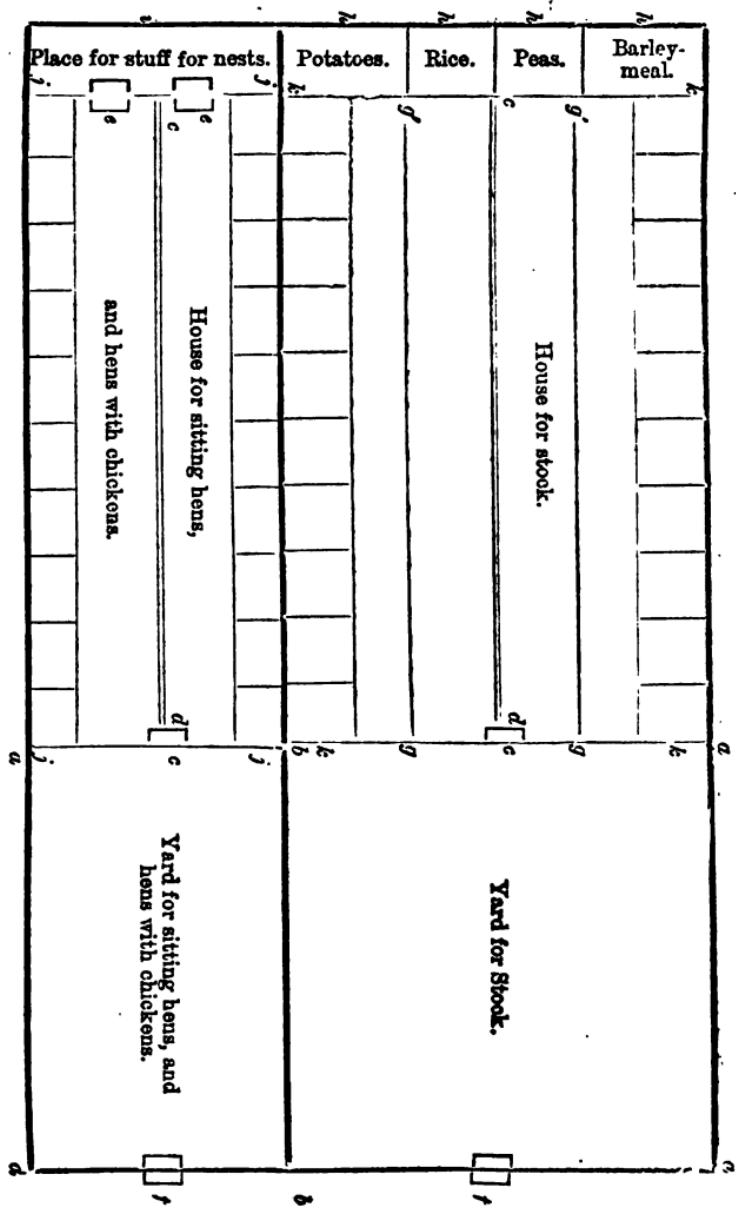
Of the Bantam there are many different varieties; the most esteemed of which are, the Golden-laced, the Silver-laced, the Black, the White, and the Nankeen. Of these, nankeen and black are the most prized. If the bird be of the first colour, the edges of his feathers should be black, tail-feathers black, breast-feathers black with white edges, wings purple-barred, and his neck-feathers slightly tinged with purple; and if of the second colour, no feathers of any tint should break the uniform black. In carriage, he should be free and spirited; his comb should be rose-coloured, his tail full-feathered, and his legs bright in colour, and free from feathers. In weight he must not exceed a pound. The hens must be small, and correspond in plumage with the cock, and, like him, have no feathers on the legs. Bantams lay very small, rich eggs. The best hatching month is June, as the chickens are tender.

*Hen-house and Fittings.*—The three golden rules to be observed by every poultry keeper are, cleanliness, warmth, and attention. The hen-house should be thoroughly cleaned out once a-week in winter, and at least twice a week in summer; and should be swept out every day. It should also be washed out all over with hot lime-water three or four times a year.

The following plan will be found to supply every necessary for keeping a small number of fowls in a limited space, and it possesses the further advantage of being equally convenient for any larger number, by placing more perches in line with the other two, and enlarging the yards:—

: a a a, wire fencing, six feet high, inclosing yards; b b, wire fencing, six feet high, dividing yards, boarded two or three feet high; c c c, gutters down the middle of houses to carry off water when washing; d d, e e, f f, doors; g' g' g' g, roosts four feet high, terminated at g' g' by posts; h h h, bins for food; i, place for stuff for nests; j j, nests for sitting hens, and hens with chickens; k k k, nests for laying.

The floors should be sloped from the nests to the gutter, and, if expense be not an object, they should be of board. Never use bricks, as they retain the moisture, which causes the fowls to have rheumatic attacks in their feet. The water should be conveyed quite away, as it becomes poisonous after mixing with the offal, and if it does not kill the fowls outright, it will cause interior diseases which will never be entirely eradicated. The walls should be of brick, built one or two feet deep into



the ground to exclude the rats. Anything, almost, will do for the roof, provided there are no holes or cracks to admit the wind and rain.

*Nests.*—The nests should be placed on the ground, and should be about a foot square, so that the hen will have plenty of room to turn round in. They should be made of short straw, as hay is more liable to become musty.

*Roosts.*—These should be placed three or four feet from the ground. High perches cause a swelling in the feet; feet thus affected are called *bumble-feet*.

*Feeding Troughs.*—These may be made like those for pigs, but on a smaller scale, with little holes bored all round half an inch in diameter, an inch and a half in depth, and three inches apart, in which are inserted bars twelve inches in length, supporting a slanting roof. The roof and bars must not be fixed to the trough, as it must be cleaned out once a-week, and washed with hot lime-water once a-month.

*Water Troughs.*—Same as feeding troughs.

*Food.*—In a state of domestication, the food of which fowls are most fond are wheat, oats, peas, barley, sun-flower seeds, and many other seeds, boiled potatoes mashed and given warm, turnips cut small, and all sorts of greens. They like to pick a bone; the pickings warm them, and promote their laying propensities. They should not have much animal food, but should be fed chiefly on a vegetable diet, and twice or thrice a day, according to the run they have. If they can be turned into a field or lane, they will not want near so much food. For half-a-dozen fowls of the larger kinds the following would be a good week's allowance:—Seven pounds of barley meal, ten pounds of potatoes boiled and mashed, and four pounds of rice, boiled, mixed together, and one pound and a half given morning and evening. If they are shut up in a yard they should have one pound of whole barley, given in the middle of the day. Green food may be given without limit, and if you mix a proportionate number of egg-shells with their food, it will greatly increase their laying. Poultry should have a dry heap of sand or coal-ashes to bark themselves in; it keeps them free from vermin: a little gravel and lime may be mixed with the ashes, as the poultry pick out small stones to promote the grinding of the food in their gizzards, and chalky matter for the formation of egg-shells. They should have a plentiful supply of fresh, clean water.

*Fattening.*—To fatten fowls for the table requires great experience and attention. They should be kept in coops, and

fed on barley and oatmeal alternately, mixed with hot milk, and a little fat or dripping, given warm. After feeding, give a little gravel to assist digestion, and plenty of water at all times. For two or three days before killing give nothing but the finest and heaviest wheat to eat, and milk to drink. Fattening must be completed in a fortnight; after that period they begin to lose weight; if it can be completed sooner, so much the better. The coop should be three feet high, two feet wide, and four feet long. This will admit from six to eight birds, according to their size. The bottom and front should be of bars three inches apart. A board outside the bars in front, six inches wide, will serve as a stand for the food and water troughs. The coop should be in a warm, well ventilated out-house, and if kept dark between the times of feeding all the better. Sleep and warmth promote fattening.

*Treatment during Moulting.*—All birds require more warmth and more generous diet during this time of drain upon their system. This is especially the case with old fowls. Do not let them out early in the morning if the weather is chilly, but feed them under cover, and give them warm, soft food chiefly, such as bread and ale, milk porridge made very thick with oatmeal, a little boiled meat, such as liver, &c., cut small, potatoes mashed up with pot liquor, and a little ground pepper mixed daily with their mess.

*Breeding Stock.*—The best proportions are five hens to one cock; the cock should be a year older than the hens. Cocks will last two years (after maturity), after which they lose their liveliness of colour, become inactive, and mere consumers of food; the hens should be changed every fourth or fifth year. If only eggs are required, the cock may be dispensed with, but it must be remembered that such eggs will not hatch.

*Management of Sitting Hens.*—The desire of a hen to sit is made known by a note resembling the syllable "Olk." She gets feverish, hanging her wings, bristling her feathers, and searching everywhere for eggs; and, if she find any, she immediately sits upon them and continues the incubation. With plenty of food and water at hand, a good sitting hen will give little trouble, and, at the proper time, she will lead the brood forth. Some hens, after sitting a week or less, will desert their eggs—a circumstance which may generally be traced to vermin, or want of cleanliness, which affords a strong reason for keeping the hen-house clean, and giving the hens the means of purifying their feathers.

If a hen desire to sit at a time when you do not wish her to

do so, shut her up in a place away from her nest, previously unknown to her; giving her plenty of low food, such as potatoes and rice boiled, and a constant supply of water. At the end of a week she may be returned to her companions, and in a fortnight will begin to lay again.

*Hatching Nests.*—These are best on the ground, and may be made similar to the laying nest boxes, only of wicker-work, with damp turf at the bottom. The nests should be made of dried heath and lichen, collected from trees; these, rubbing together, emit a light powder, which, penetrating the feathers of the hen, effectually disperse all vermin.

*Choice of Eggs for Sitting.*—These should not be more than a fortnight old, but, if new-laid, they will be all the better. By holding the egg between the eye and a candle, a small vacancy, or air bladder, will be observed, which, if exactly in the centre, is the germ of the male bird; and if a little on one side, is that of the female.

*Chicken Management.*—Chickens are generally all hatched at the end of twenty-one days. As soon as the hen hears the chirp of her young, she has a tendency to walk off with them, leaving the remaining unhatched eggs to their fate. The birth of the chickens should, therefore, be watched, and they should be removed as soon as dry, which may be in a few hours afterwards, feeding the hen and supplying her with water. If all the eggs are not hatched by twelve or fifteen hours after the first one, they are most likely addled, and may be abandoned, and the chickens returned to their mother. When the chickens are twenty-four hours old they should be placed in a coop, with a surface of dry sand or coal ashes, so that the hen can bask at pleasure. For the first fortnight, chickens are best kept on split groats and bread crumbs, and when a nourishing diet seems advisable, eggs boiled hard and chopped up, with milk to drink, is good food. After the first fortnight they may have whole groats, until they are able to feed with the older fowls. They should be cooped in the sun until they are a fortnight old.

THE END.

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